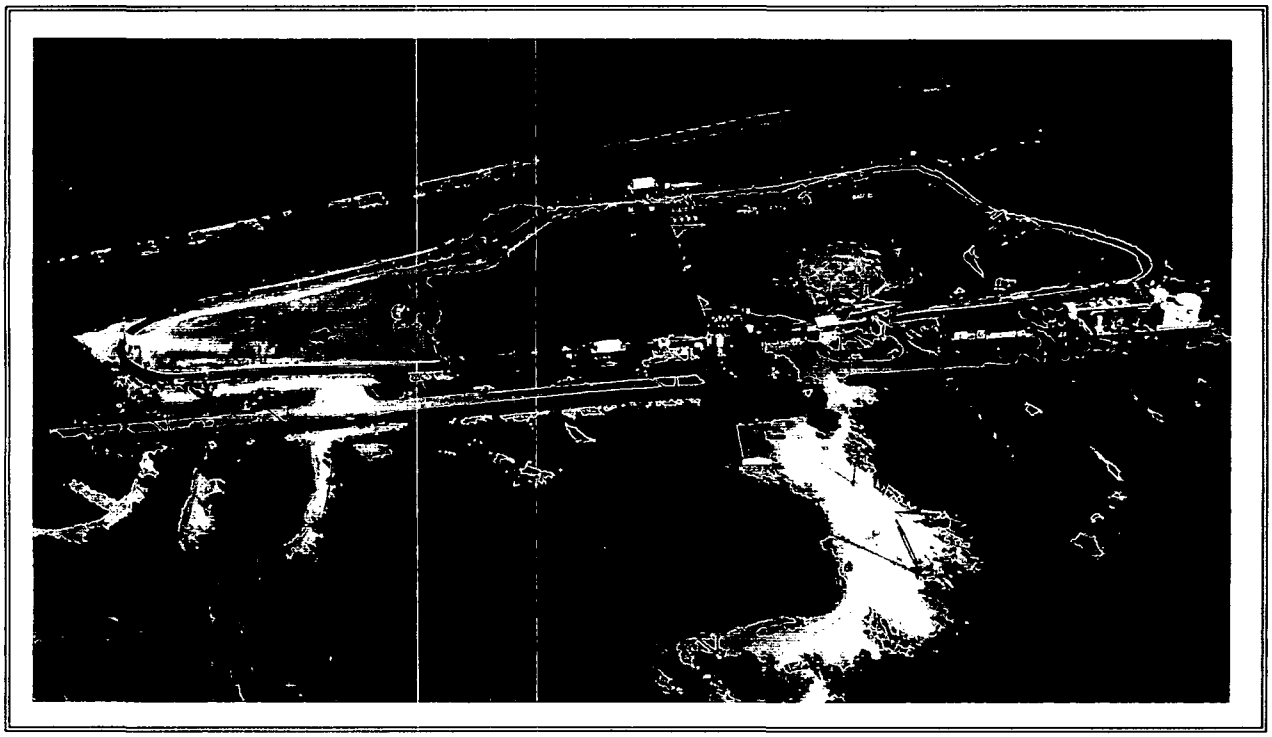
French Ltd. Project

FLTG, Inc.
Crosby, Texas

MONTHLY PROGRESS REPORT



Submitted to:

U.S. Environmental Protection Agency - Region 6
and
Texas Natural Resource Conservation Commission

July, 1995

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Samples Dated July, 1995

Project I.D.	Date Received	Project I.D.	Date Received
M08B0009	7/01/95	M04B0045	7/26/95
M08A0021	7/05/95	M04B0049	7/26/95
M03A0340	7/12/95	M04B0046	7/27/95
M08C0013	7/12/95	M04B0047	7/27/95
M03A0341	7/13/95	M01D0058	7/28/95
S14C0010	7/13/95	M03A0343	7/31/95
M08E0001	7/17/95	M06C0029	7/31/95
M08E0002	7/18/95	S14D0010	7/31/95
M08E0003	7/18/95	S14D0011	7/31/95
M04B0048	7/25/95	S14E0002	7/31/95
M08D0016	7/25/95	S14E0003	7/31/95
M03A0342	7/26/95	S14E0004	7/31/95
M04B0044	7/26/95		

1.0 INTRODUCTION

This report covers the activities of FLTG, Inc. and the French Limited Project for July, 1995. FLTG, Inc. manages the project for the French Limited Task Group of Potentially Responsible Parties.

During July, 1995, the project team focused on the following activities and issues:

- Health, Safety, and Quality.
- Safety awareness.
- Contractor safety.
- Safety on multiple job assignments.
- HAZOP of daily work assignments.
- Detecting and correcting work place hazards.
- Vegetation evaluation in Cell E.
- Operation and maintenance of the aquifer in-situ bioremediation system.
- Water treatment plant operation and maintenance.
- Operation of the data base management system.
- Wetlands project construction.
- This report includes:
    - A summary of July activities, issues, and progress.
    - Lagoon area activities.

- Groundwater and Subsoil Remediation activities, issues, and progress.
- Groundwater Treatment Plant activities and issues.
- Ambient Air Management.
- QA/QC status and data.
- Site management activities and issues.
- Wetlands restoration activities, issues, and progress.

2.0 SUMMARY

2.1 Summary of Activities and Progress

2.1.1 Health and Safety

Emphasized the safety issues associated with multiple job assignments and limited support personnel; emphasized the need to be flexible and responsive to personal limitations and to changing job conditions.

No personal injury or equipment damage incidents.

All site workers earned the July safety bonus.

Conducted safety meetings and job inspections at the start of each shift; reviewed safety issues before starting all jobs.

All employees and contractors attended daily safety meetings.

Conducted daily mini-HAZOP of all specific jobs.

Supervision made 136 specific on-the-job safety contacts.

Emphasized the causes, symptoms, and treatment of heat stress.

Inspected and certified all fire extinguishers.

Emphasized the hazards and precautions associated with working around moving equipment.

Conducted 22 specific health and safety inspections.

Logged all safety issues each shift; less than 24-hour response to all safety issues.

The daily raffle ticket safety awareness program has been effective in maintaining daily safety awareness among all site personnel and contractors.

Conducted personnel exposure monitoring, and all results were within acceptable levels. The most recent results are in Table 2-1.

2.1.2 Quality/QAQC/Data Base Management

The total quality process was used. The status of the goals is shown on Table 2-2.

All quality goals were met.

Raw data is being validated as per the plan.

The data base management system operated with no problems or delays.

There were no data or reports rejected due to errors.

American Analytical continued to provide quality data on time.

2.1.3 Lagoon

Maintained a high level of biological activity in Cell D; OUR and HMB were high. Added O_2 to Cell D using a downdraft aerator for six days.

Continued periodic subsurface injection of Cell D water in Cell E; there were no problems or issues, and adequate gradient control was maintained.

Continued evaluation of various tree and bush species for passive dewatering of the subsurface inside the floodwall.

Evaluating long-term surface water source options for the lagoon area.

Tested floodwall gate closure.

2.1.4 Ambient Air Management

Ambient air quality was manually checked daily with portable TVOC analyzers, and no response action was required.

Air quality was continuously monitored in all potential exposure areas and on all special jobs.

Time-integrated samples were collected in three work areas, and the results indicated no exposure; the data is shown in Table 2-1.

2.1.5 Aquifer Remediation

Monitored status of DNAPL plumes.

Continued routine S1 oxygen injection in target areas.

Continued INT oxygen and nutrient injection in target areas.

Continued to evaluate and implement ways to increase INT zone circulation rates in the INT-11 wall area and the SW area and to increase S1 zone circulation rates in the S1-63 area and the S1-120 area.

Completed installation of six new INT pumping wells in the southwest area.

Converted a number of S1 and INT wells to alternative functions.

Operated vacuum-enhanced pumping systems for specific INT wells.

Issued weekly well status and performance reports.

Inspected and adjusted all wells each day.

Continued daily maintenance of recovery and injection wells.

Completed monthly well measurements and sampling; TOC levels continue to decrease; DO levels continue to increase.

Maintained O_2 content of injection water at about 40-45 ppm.

Shut off 9 more production or injection wells in areas that have reached aquifer remediation shut-off criteria; monthly sampling indicated no rebound and indicated favorable gradient control; monthly sampling indicated several well conversions.

2.1.6 Groundwater Treatment

The treated water did not require carbon treatment to maintain effluent criteria.

There was no downtime.

The water treatment plant effluent data is shown in Table 2-3. All effluent samples met criteria.

TOC input to T-101 continued to decrease.

The process operators collected all the process water and ground water samples.

A test is being run in R-2 to measure the non-toxic, non-biodegradable component of the groundwater.

2.1.7 Wetlands Restoration

Continued the 30-day level cycling to saturate the marsh areas with saltwater.

Started full-scale re-vegetation of the tidal zone.

Reviewed status, progress, and issues with the TNRCC and other agencies.

2.1.8 Site Management and Issues

Used the on-site laboratory to process all the operational control samples.

Reviewed site progress and issues in detail with EPA and TNRCC on a regular basis.

Validated all analytical data as per the QAQC plan.

Reviewed project status and issues each day to ensure focus on critical issues - safety, quality, cost, INT zone progress, and wetlands construction.

Issued weekly cost, schedule, and maintenance reports.

Reviewed progress on issues and action plans each week.

Reduced aquifer remediation operational and maintenance requirements.

Reduced technical support MH's.

Reduced administrative MH's.

Continued agency oversight cost discussions with EPA; submitted long-term oversight plan.

TABLE 2-1

Ambient Air Management
Time Integrated Exposure Data

Compound	PEL 8 hour PPM	1 7-Jul-95 WTP Operator		2 7-Jul-95 Well Maintenance		3 7-Jul-95 T-101 Area	
		% of PEL	PPM	% of PEL	PPM	% of PEL	PPM
Chloromethane	50	0.001	0.000	0.004	0.002	0.001	0.000
Bromomethane	5	0.000	0.000	0.006	0.000	0.000	0.000
Vinyl chloride	1	0.000	0.000	0.000	0.000	0.005	0.000
Chloroethane	1000	0.000	0.000	0.000	0.000	0.000	0.000
Dichloromethane	50	0.012	0.006	0.014	0.007	0.000	0.000
Acetone	750	0.000	0.002	0.000	0.002	0.000	0.000
Carbon disulfide	10	0.013	0.001	0.000	0.000	0.000	0.000
1,1-Dichloroethene	5	0.000	0.000	0.000	0.000	0.000	0.000
1,1-Dichloroethane	100	0.000	0.000	0.000	0.000	0.003	0.003
trans-1,2-Dichloroethe	200	0.007	0.014	0.000	0.001	0.001	0.003
Chloroform	10	0.015	0.001	0.000	0.000	0.178	0.018
1,2-Dichloroethane	10	0.000	0.000	0.000	0.000	0.049	0.005
2-Butanone	200	0.000	0.000	0.002	0.003	0.000	0.000
1,1,1-Trichloroethane	350	0.000	0.001	0.000	0.000	0.000	0.000
Carbon Tetrachloride	5	0.031	0.002	0.000	0.000	0.169	0.008
Vinyl acetate	10	0.000	0.000	0.000	0.000	0.000	0.000
Bromodichloromethane			0.002		0.000		0.000
1,2-Dichloropropane	75	0.000	0.000	0.000	0.000	0.000	0.000
cis-1,3-Dichloropropen	1	0.000	0.000	0.000	0.000	0.000	0.000
Trichloroethene	50	0.002	0.001	0.000	0.000	0.006	0.003
Dibromochloromethane			0.000		0.000		0.000
1,1,2-Trichloroethane	10	0.000	0.000	0.000	0.000	0.000	0.000
Benzene	1	0.087	0.001	0.016	0.000	0.011	0.000
trans-1,3-Dichloroprop	1	0.000	0.000	0.000	0.000	0.000	0.000
2-Chloroethylvinyl ether			0.000		0.000		0.000
Bromoform	0.5	0.000	0.000	0.000	0.000	0.000	0.000
4-Methyl-2-pentanone	50	0.000	0.000	0.000	0.000	0.000	0.000
2-Hexanone	5	0.000	0.000	0.000	0.000	0.000	0.000
Tetrachloroethene	50	0.010	0.005	0.001	0.001	0.001	0.001
1,1,2,2-Tetrachloroet	1	0.000	0.000	0.000	0.000	0.000	0.000
Toluene	100	0.004	0.004	0.001	0.001	0.000	0.000
Chlorobenzene	10	0.012	0.001	0.000	0.000	0.000	0.000
Ethylbenzene	100	0.002	0.002	0.000	0.000	0.000	0.000
Styrene	50	0.001	0.000	0.000	0.000	0.000	0.000
Xylene (total)	100	0.002	0.002	0.000	0.000	0.000	0.000
Hexane			0.001		0.002		0.000

TABLE 2-2

Project Quality

Status as of 07/31/95		Goals	
Yes	1)	No OSHA recordable injuries.	
Attention	2)	100% compliance with all safety rules and procedures.	
Yes	3)	No citations for violations of applicable, relevant and appropriate regulations.	
Yes	4)	100% attendance (including contractors) at daily safety meetings.	
Attention	5)	Less than 24-hour response time on health and safety issues.	
Yes	6)	100% sign-in and security clearance.	
Yes	7)	No invalidation of reported data due to QA/QC issues.	
	8)	Spend less than:	MH/Month
Yes		• Direct hire	1,200
Yes		• FLTG management	600
Yes/Attention		• Technical support (3 people)	400
Yes/Attention		• Maintenance support	80
Yes	9)	Pump at least 90 gpm; inject at least 60 gpm.	
Yes	10)	Remediate shallow alluvial zone aquifer in 60 months.	
Yes	11)	Hold analytical cost to less than $15,000 per month (1994 only).	
Yes	12)	No unscheduled overtime (per day or per week).	
Yes	13)	No agency contacts which require 3rd party resolution.	
Yes	14)	Documented training of site personnel for all work assignments.	
Yes	15)	Monthly audit of actual performance versus goals.	

TABLE 2-3
Treated Water Results Summary

Collected	Set No.	pH (6-9)		TSS 5 PPM		TOC 55 PPM		O&G 15 PPM		Benzene 150 PPB		Chlor HC's 500 PPB		Total PCBs 0.65 PPB		Napthalene 300 PPB	
		Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg
2-Mar-95	M03A0313	7.47		.5		8.5		2.5		2.5		145.		.16		5.	
6-Mar-95	M03A0314	7.49		1.		8.1		2.5		2.5		128.		.16		5.	
9-Mar-95	M03A0315	7.38		1.		8.		2.5		2.5		193.		.16		5.	
13-Mar-95	M03A0316	7.64		5.		7.2		2.5		2.5		111.		.16		5.	
16-Mar-95	M03A0317	7.55		.5		6.		2.5		2.5		150.		.16		5.	
20-Mar-95	M03A0318	7.41		.5		6.6		2.5		2.5		97.		.16		5.	
23-Mar-95	M03A0319	7.45		1.		6.		2.5		2.5		185.		.16		5.	
27-Mar-95	M03A0320	7.83		3.		12.2		2.5		6.		325.		.16		5.	
30-Mar-95	M03A0321	7.47	7.5	7.	2.2	11.9	8.3	2.5	2.5	6.	3.3	342.	186	.16	.16	5.	5.
3-Apr-95	M03A0322	7.42	7.5	1.	2.2	11.7	8.6	2.5	2.5	6.	3.7	269.	200	.16	.16	5.	5.
6-Apr-95	M03A0323	7.45	7.5	2.	2.3	12.2	9.1	2.5	2.5	6.	4.1	239.	212	.16	.16	5.	5.
10-Apr-95	M03A0324	7.38	7.5	2.	2.4	11.1	9.4	2.5	2.5	6.	4.4	230.	216	.16	.16	5.	5.
13-Apr-95	M03A0325	7.62	7.5	3.	2.2	12.9	10.1	2.5	2.5	6.	4.8	364.	245	.16	.16	5.	5.
17-Apr-95	M03A0326	7.59	7.5	11.	3.4	12.9	10.8	2.5	2.5	6.	5.2	247.	255	.16	.16	5.	5.
20-Apr-95	M03A0327	7.75	7.6	1.	3.4	12.1	11.4	2.5	2.5	6.	5.6	226.	270	.16	.16	5.	5.
24-Apr-95	M03A0328	7.67	7.6	13.	4.8	13.	12.2	2.5	2.5	6.	6.	269.	279.	.16	.16	5.	5.
27-Apr-95	M03A0329	7.51	7.5	1.	4.6	12.2	12.2	2.5	2.5	2.5	5.6	236.	269	.16	.16	5.	5.
1-May-95	M03A0330	7.63	7.6	1.	3.9	12.1	12.2	2.5	2.5	2.5	5.2	177.	251	.16	.16	5.	5.
4-May-95	M03A0331	7.91	7.6	4.	4.2	12.5	12.3	2.5	2.5	2.5	4.8	222.	246	.16	.16	5.	5.
8-May-95	M03A0332	7.95	7.7	4.	4.4	11.3	12.2	2.5	2.5	2.5	4.4	228.	244	.16	.16	5.	5.
11-May-95	M03A0334	7.97	7.7	4.	4.7	10.9	12.21	2.5	2.5	2.5	4.1	235.	245	.16	.16	5.	5.
15-May-95	M03A0333	7.87	7.8	8.	5.2	13.7	12.3	2.5	2.5	2.5	3.7	209.	228	.16	.16	5.	5.
18-May-95	M03A0335	7.73	7.8	6.	4.7	11.	12.1	2.5	2.5	6.	3.7	374.	242	.16	.16	5.	5.
22-May-95	M03A0336	7.88	7.8	1.	4.7	31.	14.2	2.5	2.5	6.	3.7	274.	247	.16	.16	5.	5.
29-May-95	M03A0337	7.76	7.8	1.	3.3	45.	17.7	2.5	2.5	6.	3.7	227.	242	.16	.16	5.	5.
5-Jun-95	M03A0338	7.53	7.8	.5	3.3	12.1	17.7	2.5	2.5	2.5	3.7	189.	237	.16	.16	5.	5.
12-Jun-95	M03A0339	7.78	7.8	1.	3.3	45.8	21.5	2.5	2.5	2.5	3.7	188.	238	.16	.16	5.	5.
19-Jun-95	M03A0440	7.68	7.8	5.	3.4	7.	20.9	2.5	2.5	2.5	3.7	144.	230	.16	.16	5.	5.
26-Jun-95	M03A0441	7.71	7.8	1.	3.1	9.1	20.6	2.5	2.5	2.5	3.7	128.	219	.16	.16	5.	5.
2-Jul-95	M03A0442	7.47	7.7	.5	2.7	6.7	20.2	2.5	2.5	2.5	3.7	180.	213	.16	.16	5.	5.
10-Jul-95	M03A0343	7.76	7.7	5.	2.3	5.2	19.2	2.5	2.5	2.5	3.7	182.	210	.16	.16	5.	5.
17-Jul-95	M03A0344	7.75	7.7	3.	2.	7.6	18.8	2.5	2.5	2.5	3.3	181.	188	.16	.16	5.	5.
24-Jul-95	M03A0345	7.55	7.7	.5	1.9	8.2	16.3	2.5	2.5	5.	3.2	479.	211	.16	.16	5.	5.
31-Jul-95	M03A0346	7.64	7.7	.5	1.9	2.5	11.6	7.8	3.1	5.	3.1	380.	228	.16	.16	5.	5.

Chlorinated hydrocarbons value is the sum of detected concentrations of 21 volatile chlorinated hydrocarbons on target compound list.

TABLE 2-3 (Continued)
Treated Water Results Summary

Collected	Set No.	As		Be		Cd		Cr		Cu		Pb		Mn		Hg		Ni		Se		Ag		Zn	
		150 PPB		1000 PPB		50 PPB		500 PPB		15 PPB		66 PPB		300 PPB		1 PPB		148 PPB		20 PPB		5 PPB		162 PPB	
		Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg
2-Mar-95	M03A0313	23.		133.		.1		2.		1.		.5		15.		.1		8.		1.3		.5		6.	
6-Mar-95	M03A0314	17.		130.		1.		1.		3.		2.2		3.		.1		2.5		.5		.8		8.	
9-Mar-95	M03A0315	24.		111.		.1		.2		.8		.5		4.		.1		4.		1.3		.2		6.	
13-Mar-95	M03A0316	17.		121.		.1		.2		1.		.5		41.		.1		3.		1.3		.2		5.	
16-Mar-95	M03A0317	23.		114.		.1		.3		3.		.5		2.		.1		3.		1.3		.2		11.	
20-Mar-95	M03A0318	18.		112.		.1		.2		3.		.5		2.		.1		2.		1.3		.2		3.	
23-Mar-95	M03A0319	19.		119.		.1		.2		2.		.5		2.		.1		3.		1.3		.2		4.	
27-Mar-95	M03A0320	14.		130.		.1		3.		2.		.5		22.		.1		5.		1.3		.2		40.	
30-Mar-95	M03A0321	19.	19.3	132.	122	.1	.2	2.	1.	2.	2.	.5	.7	25.	12.9	.1	.1	6.	4.1	1.3	1.2	.2	.3	8.	10.1
3-Apr-95	M03A0322	17.	18.7	127.	122	.1	.2	.2	.8	2.	2.1	.5	.7	9.	12.2	.1	.1	1.	3.3	1.3	1.2	.2	.2	15.	11.1
6-Apr-95	M03A0323	23.	19.3	102.	119	.1	.1	.2	.7	1.	1.9	.5	.5	4.	12.3	.1	.1	1.	3.1	1.3	1.3	.2	.2	4.	10.7
10-Apr-95	M03A0324	12.	18.	157.	124	.1	.1	2.	.9	2.	2.	2.	.7	32.	15.4	.1	.1	4.	3.1	1.3	1.3	.2	.2	8.	10.9
13-Apr-95	M03A0325	44.	21.	107.	122	.1	.1	1.	1.	2.	2.1	.5	.7	11.	12.1	.1	.1	6.	3.4	1.3	1.3	.2	.2	3.	10.7
17-Apr-95	M03A0326	26.	21.3	171.	129	.1	.1	14.	2.5	2.	2.	1.	.7	108.	23.9	.1	.1	14.	4.7	1.3	1.3	.2	.2	17.	11.3
20-Apr-95	M03A0327	24.	22.	129.	130	.7	.2	7.	3.3	9.	2.7	2.	.9	43.	28.4	.1	.1	10.	5.6	1.3	1.3	.2	.2	34.	14.8
24-Apr-95	M03A0328	21.	22	115.	130.	.1	.2	7.	4.	1.	2.6	.5	.9	38.	32.4	.1	.1	6.	5.9	1.3	1.3	.2	.2	4.	14.8
27-Apr-95	M03A0329	24.	23.3	110.	128	.1	.2	2.	3.9	2.	2.6	.5	.9	12.	31.3	.1	.1	7.	6.1	1.3	1.3	.2	.2	9.	11.3
1-May-95	M03A0330	16.8	23.1	106.	125	1.1	.3	.7	3.8	.7	2.4	.5	.9	6.8	29.3	.1	.1	8.5	6.4	.8	1.2	.5	.2	.2	10.5
4-May-95	M03A0331	21.	23.5	149.	127	1.1	.4	5.9	4.4	1.	2.3	.5	.9	70.4	36.1	.1	.1	7.6	7.1	.8	1.2	.5	.2	16.2	10.6
8-May-95	M03A0332	16.	22.8	126.	130.	.1	.4	1.	4.5	1.6	2.4	.5	.9	6.	36.4	.1	.1	5.	7.6	1.3	1.2	.2	.2	4.	10.6
11-May-95	M03A0334	17.	23.3	158.	130	.1	.4	3.	4.6	.9	2.2	.5	.7	22.	35.2	.1	.1	6.	7.8	1.3	1.2	.2	.2	5.	10.3
15-May-95	M03A0333	17.	20.3	141.	134	.1	.4	2.	4.7	1.	2.1	.5	.7	21.	36.4	.1	.1	5.	7.7	1.3	1.2	.2	.2	4.	10.4
18-May-95	M03A0335	18.	19.4	122.	128	.1	.4	.2	3.2	.3	1.9	.5	.7	4.	24.8	.1	.1	3.	6.5	1.3	1.2	.2	.2	1.5	8.7
22-May-95	M03A0336	14.	18.3	130.	129	.1	.3	1.	2.5	.5	1.	.5	.5	9.	21.	.1	.1	5.	5.9	1.3	1.2	.2	.2	7.	5.7
29-May-95	M03A0337	16.	17.8	176.	135	.1	.3	2.	2.	.3	.9	.5	.5	27.	19.8	.1	.1	1.	5.3	2.8	1.3	.2	.2	4.	5.7
5-Jun-95	M03A0338	12.	16.4	191.	144	.1	.3	2.	2.	1.	.8	.5	.5	18.	20.5	.1	.1	4.	5.	1.3	1.3	.2	.2	5.	5.2
12-Jun-95	M03A0339	13.	16.	204.	155	.1	.2	1.	2.	1.	.8	.5	.5	2.5	20.	.1	.1	4.5	4.6	1.3	1.4	.2	.2	3.	5.5
19-Jun-95	M03A0340	14.	15.2	213.	162	.1	.1	1.	1.5	.8	.8	.5	.5	6.	12.8	.1	.1	5.	4.3	1.3	1.4	.2	.2	1.5	3.9
26-Jun-95	M03A0341	15.	15.1	155.	166	.1	.1	.7	1.4	.7	.7	4.	.9	2.	12.4	.1	.1	4.	4.2	1.3	1.4	.2	.2	6.	4.1
2-Jul-95	M03A0342	17.	15.1	122.	162	.1	.1	1.5	1.3	.5	.7	1.	.9	10.	11.1	.1	.1	5.	4.1	1.5	1.4	.2	.2	6.	4.2
10-Jul-95	M03A0343	13.	14.7	173.	165	.2	.1	.7	1.1	.9	.7	.5	.9	2.	8.9	.1	.1	5.	4.1	1.2	1.4	.2	.2	5.	4.3
17-Jul-95	M03A0344	13.	14.1	172.	171	.1	.1	.9	1.2	1.	.7	.5	.9	2.5	8.8	.1	.1	4.8	4.3	1.2	1.4	.2	.2	2.9	4.5
24-Jul-95	M03A0345	18.	14.6	175.	176	.1	.1	.7	1.2	.9	.8	.5	.9	1.3	7.9	.1	.1	6.6	4.4	1.2	1.4	.2	.2	5.5	4.3
31-Jul-95	M03A0346	12.	14.1	193.	178	.1	.1	.9	1.	.9	.8	2.8	1.2	5.2	5.5	.1	.1	4.6	4.8	1.1	1.2	.2	.2	3.7	4.3

Metals values in PPB.

2.2 Problem Areas and Recommended Solutions

Problem	Solution
Maintain high level of safety awareness.	Daily raffle ticket program. Daily safety meetings. Safety meeting participation. Training. Regular HAZOP's.
On-the-Job safety attention.	Contact all employees at least twice per day on safety issues. Review job details as work proceeds. Stop and challenge approach. Constant emphasis and reminders.
Hazard detection and response.	Safety inspections. HAZOP's on all jobs. Constant awareness and follow-up.
Increase circulation in specific S1 and INT target areas.	Add six new pumping wells. Make ten well conversions to alternative functions. Set up several wells to cycle functions.
Modeling of 10-year natural flushing impact.	Complete several trial modeling runs; develop baseline values for DO and on-biodegradable TOC.
Long-term site management.	Develop long-term site management plan.

2.3 Problems Resolved

Problem	Solution
Vegetation source for wetlands.	Finalized agreement with Texas Parks and Wildlife as to source.

Problem	Solution
Affected soil adjacent to wetlands project.	The City of Baytown will manage as per TNRCC guidelines.

2.4 Deliverables Submitted

June, 1995 monthly report
Forecast Future Agency Oversight Plan
July 6-7, 1995, IQAT Report

2.5 Upcoming/Ongoing Events and Activities

Daily safety meetings and inspections.

Daily safety awareness program.

Emphasis on multiple work assignments.

Emphasis on hazard identification and response.

Attention to safety details.

Operate S1 and INT wells for expedited in-situ bioremediation.

Increase nutrient and oxygen circulation in specific INT areas.

Continue focused remediation in S1 and INT target areas.

Convert wells to alternative functions to focus remediation.

Daily well pump checks and maintenance.

Aquifer compliance sampling in select areas and zones.

Measure upgradient aquifer DO and TOC.

Run six natural attenuation modeling cases.

Injection of Cell D water.

Determine the baseline level of non-biodegradable TOC in the aquifer water.

Evaluate vegetation in Lagoon area.

Evaluate lagoon surface water source options.

Operate Data Base Management System.

Total Quality process.

Minimize carbon usage in Water Treatment Plant.

Develop long-term site management plan.

Develop lagoon closure plan.

Submit MCC-1 area remediation report.

Continue brackish marsh area re-vegetation.

2.6 Key Staffing Changes

Reduced secretarial/clerical support by 40%.

2.7 Percent Complete

Research & Development	- 98%
Facilities	-100%
Slough	-100%
Subsoil Investigation	-100%
Floodwall	-100%
Lagoon Remediation	-100%
Groundwater	- 86%
Lagoon Dewatering/Fixation	-100%
Water Treatment	- 83%
Wetlands	- 98%
Demobilization	- 69%
Monitoring	- 66%

2.8 Schedule

All deliverables are on schedule.

Complete wetlands re-vegetation by September 1, 1995.

Complete active aquifer remediation by January 1, 1996.

2.9 Operations and Monitoring Data

The operations and monitoring data are submitted as parts of Sections 3.0, 4.0, 5.0, and 6.0 of this report, and the supporting data are stored in secure storage at the French project office.

2.10 Credits Accrued/Applied

Status of Credits

	Accrued this period	Accrued to date	Applied this period	Applied to date	Running total
December 1990	34	34	0	0	34
December 1991	0	100	0	0	100
December 1992	0	101	0	2	99
December 1993	0	104	0	4	100
January 1994	0	104	0	4	100
February 1994	0	104	0	4	100
March 1994	0	104	0	4	100
April 1994	0	104	0	4	100
May 1994	0	104	0	4	100
June 1994	0	104	0	4	100
July 1994	5	109	0	4	105
August 1994	0	109	0	4	105
September 1994	0	109	0	4	105
October 1994	0	109	0	4	105
November 1994	0	109	0	4	105
December 1994	0	109	0	4	105
January 1995	0	109	0	4	105
February 1995	0	109	0	4	105
March 1995	0	109	0	4	105
April 1995	0	109	0	4	105
May 1995	0	109	0	4	105
June 1995	0	109	0	4	105
July 1995	0	109	0	4	105

2.11 Community Relations

Maintained 24-hour, call-in Hot Line.

Conducted five tours for interested parties.

Contacted nearby local residents with update on site activities.

Contacted three Riverdale residents with well sampling results.

Supported Barrett Chamber of Commerce development project.

Supported annual Barrett fair.

3.0 LAGOON

3.1 Summary of Activities

Evaluating test plots of various plants in Cell E.

Injected about 81,000 gallons of "clean" Cell D water in Cell E subsurface.

Operated aerator in Cell D to expedite biomass degradation.

Evaluating various options for gradient control inside the lagoon.

Evaluating several surface water source options for the area inside the migration wall.

Continued dismantling and disposal of scrap piping.

3.2 Problems and Response Action

Problem	Recommended Solution
Ground cover growth slow in Cell E.	Water frequently. Evaluate different grass blends and soil nutrients.
Poor tree growth in Cell E.	Evaluate different types of trees. Design an irrigation system.
Surface water source.	Develop list of options; evaluate realistic options.

3.3 Problems Resolved

None.

3.4 Deliverables Submitted

None.

3.5 Upcoming Events and Activities

Maintain pH, DO, OUR, and nutrient levels in Cell D.

Operate aerator/mixer in Cell D as required.

Inject Cell D water in Cell E subsurface.

Water Cell E and Cell F as required.

Maintain vegetation in Cell E.

Dismantle and dispose of surplus pipe.

Evaluate surface water source options.

4.0 GROUNDWATER AND SUBSOIL REMEDIATION

4.1 Summary of Activities

4.1.1 Operation of Production and Injection Well Systems

Operation of the production and injection wells systems during July, 1995, is summarized in Table 4-1. Flows from the production well system are summarized in Table 4-2 and Figure 4-1. Flows into the injection well system are summarized in Table 4-3 and Figure 4-2. Individual well flows are summarized in Table 4-4.

4.1.2 Operational Monitoring

Operational monitoring associated with the groundwater and subsoil remediation system during July, 1995, is summarized in Table 4-5.

4.1.3 Data Management and Evaluation

Operational monitoring data from the groundwater and subsoil remediation system for this reporting period were entered into FLTG's database. Tables and figures for this section of the Monthly Progress Report were generated from this database.

4.2 Problems and Response Actions

Groundwater production and injection rates were at or above the targets of both production and injection wells. The new goal for production well rates is 90 gpm. See Table 4-1. Nutrient and dissolved oxygen concentrations in injection water were at or close to target levels. No specific response action is planned.

TABLE 4-1

Groundwater System Operation - July 1995 *Reporting Period: July 1-31 (31 days)*
Production System
No. of production wells: 119 (S1 unit, 53; INT unit, 66) No. of operational wells by end of month: 62 (S1 unit, 14; INT unit, 48)
Changes in system since last month: INT-231, -232, -233, -234, -235, -236 placed on line; INT-2 and -3 converted to injection
No. of wells off line having reached criteria: 39 16 wells off inside lagoon
Groundwater produced: 3.8 M gal; 264.4 M gal since startup based on main meter Total production rate: avg. 86 gpm (target 90 gpm); range 65-106 gpm S1 production rate: avg. 47.4 gpm; avg. 3.4 gpm per metered well INT production rate: avg. 38.6 gpm; avg. 0.8 gpm per metered well Total flow rate apportioned between S1 and INT units based on individual well meter readings; average flows based on 31 days operation
TOC (non-volatile) concentration avg. 40 ppm; range 27-122 ppm TOC mass removed: 1,288 lb. (371,392 lb. since startup); 42 lb./day
Injection System
No. of injection wells: 70 (S1 unit, 22 [9 on line]; INT unit, 48 [32 on line])
Rainfall during period: 1.65 inches
Changes in system since last month: Shut off INT-202; convert INT-2, -3, and -113 to injection; convert S1-20 to injection
Groundwater injected: 4.0 M gal (164.2 M gal since startup) based on main meters
S1 unit injected: 1.4 M gal (88.5 M gal since startup) INT unit injected: 2.7 M gal (75.8 M gal since startup) Total injection rate: avg. 94.5 gpm (target 100 gpm); range 77-97 gpm S1 injection rate: avg. 45.1 gpm; avg. 5.0 gpm per well INT injection rate: avg. 49.4 gpm; avg. 1.6 gpm per well Total flow rate apportioned between S1 and INT units based on individual well meter readings; average flows based on 31 days operation
Oxygen added to injection water: 9,715 lb.; 313.4 lb./day used (input efficiency = 18%) Avg. DO in injection water: S1, 56.0 ppm; INT, 47.8 ppm (target 40 ppm) ⇒ 55.9 lb./day injected
Volume of 9.1% w/w KNO_3 nutrient solution added to INT unit, and 3 S1-North wells: 9,240 gal Nutrient flow rate: 298.1 gpd, 0.35% of INT + S1-North inflow rate (target 0.38%) Calculated injection water NO_3 concentration: 89.3 mg/L-N (target 50 mg/L-N)

Note that average monthly flow rates at individual wells (calculated from weekly individual well flow meter readings) are not used directly to determine S1 and INT unit inflows and outflows, but are used to apportion total production and injection flows (calculated from daily main production and injection meter readings) between S1 and INT units. Average flows are based on the 31 day reporting period.

TABLE 4-2

Daily Groundwater Production and TOC Removal
July 1995

Date	Project Day	T-101 Outflow Rate (FQ-101A) (gpd)	T-101 Outflow Rate (gpm)	T-101 Influent Ave. TOC (mg/L)	T-101 Influent TOC Loading (kg/day)
1-Jul	1270	134,600	93	31	16
2-Jul	1271	135,400	94	32	16
3-Jul	1272	133,400	93	32	16
4-Jul	1273	136,600	95	32	17
5-Jul	1274	143,400	100	41	22
6-Jul	1275	153,000	106	27	16
7-Jul	1276	126,300	88	42	20
8-Jul	1277	137,500	95	65	34
9-Jul	1278	129,400	90	39	19
10-Jul	1279	125,000	87	35	17
11-Jul	1280	122,300	85	122	57
12-Jul	1281	120,700	84	33	15
13-Jul	1282	126,100	88	35	17
14-Jul	1283	124,700	87	29	14
15-Jul	1284	122,700	85	38	18
16-Jul	1285	119,100	83	34	15
17-Jul	1286	114,300	79	36	16
18-Jul	1287	99,400	69	36	14
19-Jul	1288	95,800	67	35	13
20-Jul	1289	136,500	95	42	22
21-Jul	1290	115,500	80	35	15
22-Jul	1291	112,800	78	45	19
23-Jul	1292	112,800	78	49	21
24-Jul	1293	138,700	96	45	24
25-Jul	1294	133,400	93	42	21
26-Jul	1295	122,800	85	37	17
27-Jul	1296	109,800	76	33	14
28-Jul	1297	98,500	68	38	14
29-Jul	1298	93,600	65	35	12
30-Jul	1299	121,600	84	29	13
31-Jul	1300	139,100	97	42	22
Month Average		123,703	86	40	19
Month Total		3,834,800		1288 lb	584

TABLE 4-3

Daily Injection Flows
July 1995

Date	Project Day	INT South S1 North Injection Wells FQ905		INT North Injection Wells Meter FQ-906		S1 South Injection Wells Meter FQ-909		Total Injection Rate		Oxygen	Nutrients
		(gpd)	(gpm)	(gpd)	(gpm)	(gpd)	(gpm)	(gpd)	(gpm)	lbs	Gallons
1-Jul	1270	46,100	32	42,700	30	41,600	29	130,400	91	100	304
2-Jul	1271	45,100	31	42,200	29	42,000	29	129,300	90	300	300
3-Jul	1272	45,300	31	42,300	29	42,300	29	129,900	90	355	341
4-Jul	1273	44,600	31	42,300	29	42,100	29	129,000	90	395	320
5-Jul	1274	43,300	30	39,100	27	34,500	24	116,900	81	240	274
6-Jul	1275	42,600	30	42,600	30	40,000	28	125,200	87	400	331
7-Jul	1276	43,300	30	42,300	29	41,900	29	127,500	89	400	312
8-Jul	1277	41,300	29	43,100	30	41,200	29	125,600	87	300	266
9-Jul	1278	40,700	28	42,200	29	40,500	28	123,400	86	300	315
10-Jul	1279	43,300	30	44,200	31	42,500	30	130,000	90	300	289
11-Jul	1280	43,100	30	25,400	18	42,000	29	110,500	77	260	319
12-Jul	1281	41,900	29	42,900	30	41,600	29	126,400	88	335	319
13-Jul	1282	42,500	30	44,100	31	42,500	30	129,100	90	300	300
14-Jul	1283	41,600	29	44,100	31	41,900	29	127,600	89	300	315
15-Jul	1284	40,400	28	44,500	31	40,800	28	125,700	87	395	334
16-Jul	1285	40,700	28	43,500	30	41,400	29	125,600	87	300	315
17-Jul	1286	41,400	29	43,200	30	43,200	30	127,800	89	300	304
18-Jul	1287	44,500	31	47,000	33	46,400	32	137,900	96	260	285
19-Jul	1288	45,100	31	45,400	32	47,100	33	137,600	96	300	300
20-Jul	1289	45,000	31	44,700	31	47,100	33	136,800	95	320	304
21-Jul	1290	46,600	32	43,400	30	48,600	34	138,600	96	280	289
22-Jul	1291	44,800	31	45,500	32	47,200	33	137,500	95	300	327
23-Jul	1292	43,200	30	43,500	30	46,100	32	132,800	92	435	334
24-Jul	1293	40,800	28	43,500	30	45,500	32	129,800	90	360	285
25-Jul	1294	40,900	28	43,300	30	45,100	31	129,300	90	500	285
26-Jul	1295	42,300	29	44,000	31	45,800	32	132,100	92	200	278
27-Jul	1296	41,500	29	41,700	29	45,100	31	128,300	89	320	244
28-Jul	1297	43,000	30	44,300	31	46,300	32	133,600	93	260	199
29-Jul	1298	43,100	30	45,300	31	46,800	33	135,200	94	200	289
30-Jul	1299	45,200	31	45,100	31	47,200	33	137,500	95	300	285
31-Jul	1300	46,300	32	46,300	32	47,500	33	140,100	97	400	277
Month Average		43,210	30	43,023	30	43,671	30	129,903	90	313	298
Month Total		1,339,500		1,333,700		1,353,800		4,027,000		9,715	9,240

TABLE 4-4

Average Production and Injection Flow Rates - July 1995

Flow rates are averages for the period July 1 - July 31 (31 days)

S1 Production Wells (14)

Well ID	gpm
S1-1	OFF
S1-2	OFF
S1-3	OFF
S1-4	OFF
S1-5	OFF
S1-6	OFF
S1-7	OFF
S1-8	OFF
S1-9	OFF
S1-10	OFF
S1-11	OFF
S1-12	OFF
S1-13	OFF
S1-14	OFF
S1-15	OFF
S1-16	OFF
S1-17	1.3
S1-19	1.4
S1-20	OFF
S1-21	OFF
S1-22	1.2
S1-23	OFF
S1-24	OFF
S1-25	2.1
S1-26	5.2
S1-27	1.2
S1-28	3.8
S1-29	1.6
S1-30	4.2
S1-31	OFF
S1-32	3.7
S1-33	OFF
S1-34	OFF
S1-35	OFF
S1-36	OFF
S1-37	OFF
S1-38	OFF
S1-39	OFF
S1-40	OFF
S1-41	OFF
S1-42	OFF
S1-43	OFF
S1-44	OFF
S1-45	OFF
S1-46	OFF
S1-47	OFF
S1-48	OFF
S1-60	OFF
S1-61	3.4
S1-62	11.3
S1-63	6.1
S1-64	1.7
Total	**47.2**
Average*	**3.4**

* of metered wells

S1 Injection Wells (9)

Well ID	gpm
S1-18	2.7
S1-20	1.0
S1-31	3.8
S1-49	OFF
S1-50	OFF
S1-51	OFF
S1-52	OFF
S1-53	OFF
S1-54	OFF
S1-55	3.9
S1-56	OFF
S1-57	OFF
S1-58	OFF
S1-59	OFF
S1-65	11.2
S1-66	OFF
S1-67	OFF
S1-68	OFF
S1-69	5.4
S1-70	4.9
S1-101	5.7
S1-133	6.6
Total	**45.2**
Average	**5.0**

Wells S1-18, S1-31 and S1-133 receive oxygen and nutrient amended injection water	
Subtotal	13.1

All other S1 wells receive oxygenated injection water only

Notes
OFF - well inoperative

INT Production Wells (47)

Well ID	gpm
INT-1	0.8
INT-3	0.1
INT-4	0.1
INT-5	1.3
INT-6	0.2
INT-7	0.2
INT-8	1.3
INT-9	0.8
INT-10	3.2
INT-11	0.3
INT-12	1.2
INT-13	0.4
INT-14	OFF
INT-15	OFF
INT-16	OFF
INT-17	OFF
INT-18	OFF
INT-19	0.2
INT-20	0.1
INT-21	0.3
INT-22	0.2
INT-23	0.1
INT-24	0.4
INT-25	OFF
INT-26	1.2
INT-27	1.5
INT-28	0.5
INT-29	OFF
INT-30	OFF
INT-31	OFF
INT-32	OFF
INT-33	OFF
INT-55	0.8
INT-56	0.2
INT-57	0.9
INT-58	1.3
INT-59	0.3
INT-60	1.8
INT-61	0.9
INT-62	0.3
INT-65	OFF
INT-66	OFF
INT-143	0.2
INT-205	0.6
INT-206	0.6
INT-207	0.7
INT-208	3.3
INT-209	0.2
INT-210	1.4
INT-211	OFF
INT-212	1.8
INT-213	1.7
INT-214	OFF
INT-215	2.3
INT-216	OFF
INT-217	1.8
INT-229	0.7
INT-231	0.7
INT-232	0.1
INT-233	0.1
INT-234	0.4
INT-235	0.2
INT-236	0.4
Total	**38.2**
Average	**0.8**

INT Injection Wells (31)

Well ID	gpm
INT-2	0.7
INT-63	2.3
INT-64	2.4
INT-71	OFF
INT-72	1.0
INT-73	1.1
INT-74	2.2
INT-75	0.1
INT-76	3.7
INT-77	3.2
INT-78	3.0
INT-79	0.7
INT-80	1.2
INT-81	4.0
INT-82	0.1
INT-83	1.1
INT-84	2.0
INT-85	OFF
INT-86	OFF
INT-87	OFF
INT-88	OFF
INT-89	OFF
INT-90	OFF
INT-91	OFF
INT-92	OFF
INT-93	OFF
INT-94	OFF
INT-95	OFF
INT-96	OFF
INT-97	1.0
INT-98	1.8
INT-99	OFF
INT-100	OFF
INT-113	1.2
INT-201	OFF
INT-202	OFF
INT-203	0.3
INT-204	1.1
INT-218	1.1
INT-219	1.5
INT-220	1.2
INT-221	1.0
INT-222	3.0
INT-223	1.1
INT-224	2.9
INT-225	1.8
INT-226	0.5
INT-227	0.6
Total	**48.9**
Average	**1.6**

All INT injection wells receive oxygen- and nutrient-amended injection water

Note: total and average flow rates for S1 and INT units are corrected (pe

TABLE 4-5

Operational Monitoring - July 1995

Activity	Frequency	Purpose
Check production and injection wells for pump, meter, and level control operation, injection pressure, and gas buildup.	Daily	Identify and respond to individual well problems; maintain operating efficiency.
Flow meter readings	Weekly	Identify and respond to individual well problems; maintain operating efficiency.
Read groundwater treatment plant inflow and outflow meters; nutrient injection flow meters; oxygen flows, pressure and temperature; and injection header back pressure.	2x daily	Identify and respond to treatment plant problems; control nutrient and injection flow rates.
Measure T-101 influent TOC.	2x daily	Track TOC removal.
Measure dissolved oxygen at 6 representative S1 and INT injection wells.	Weekly	Control oxygen injection.
Conduct water levels DO and TOC on 22 monitoring wells.	Weekly	Define progress of new INT wells and shut-off areas. Track DO breakthru.
Conduct water levels on shut-off wells.	Monthly	Track level recovery in shut-off wells.
Conduct TOC and DO on select production wells.	Weekly	Track TOC and DO levels in critical areas.

FIGURE 4-1

Production Flows

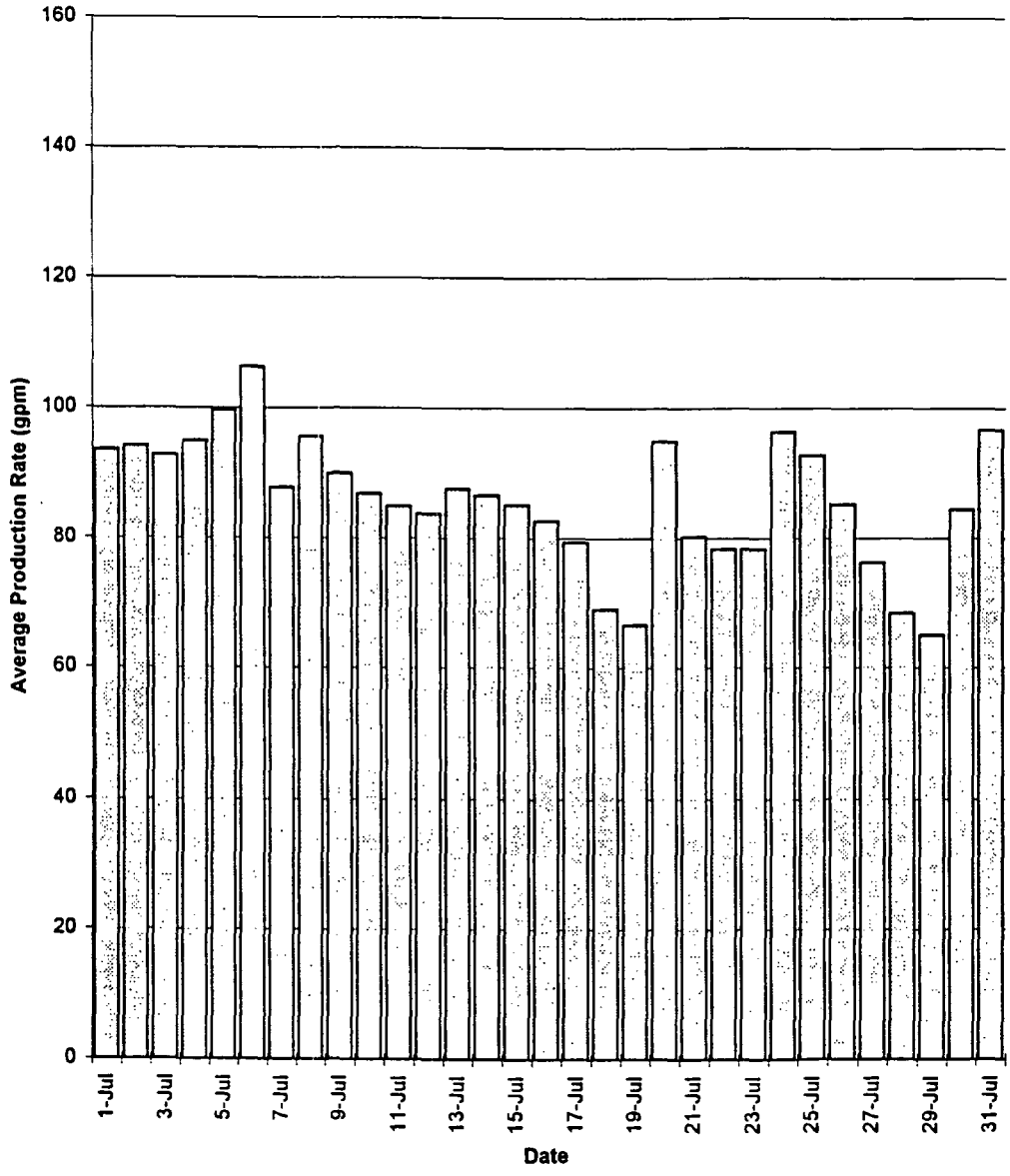

FIGURE 4-2

Injection Flows

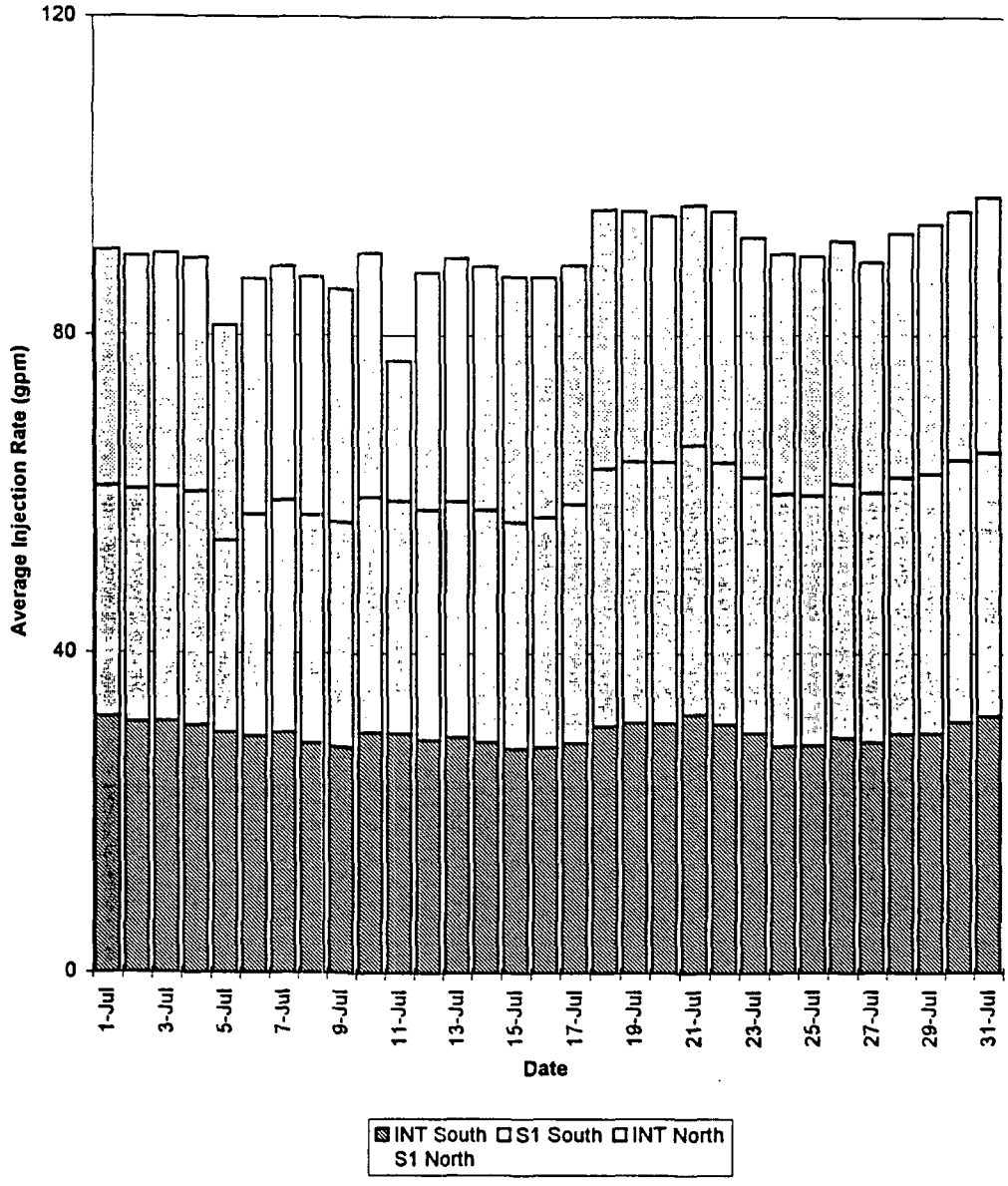

TABLE 4-6

Schedule for Shut-Down of INT and S1 Pumping and Injection Wells

Date	Well #	Type (Prod. or Inj.)	Meter Reads	Flow Rate (gpm)	Operator tagged out
01-94	S1-35	Production			MC
	S1-43	Production			MC
05-94	S1-33	Production			MC
06-94	S1-34	Production			MC
06-94	S1-36	Production			MC
	S1-37	Production			MC
	S1-38	Production			MC
06-94	S1-42	Production			MC
	S1-23	Production			MC
	S1-5	Production			MC
12-94	S1-1	Production			WW
	S1-2	Production			WW
	S1-3	Production			WW
	S1-4	Production			WW
	S1-6	Production			WW
12-94	S1-7	Production			WW
	S1-8	Production			WW
	S1-9	Production			WW
	S1-10	Production			WW
12-94	S1-11	Production			WW
	S1-12	Production			WW
	S1-13	Production			WW
	S1-14	Production			WW
12-94	S1-15	Production			WW
	S1-16	Production			WW
	S1-58	Injection	Leaking seal		WW
January, 1995 converted S1-1 thru S1-9 to injection for recharge water table for vegetation.					
02-18-95	S1-49	Injection		1.30	
	S1-39	Production		8.50	
	S1-60	Production		4.50	
	S1-48	Production		2.50	
	INT-17	Production		0.12	

TABLE 4-6 (Continued)

Schedule for Shut-Down of INT and S1 Pumping and Injection Wells

Date	Well #	Type (Prod. or Inj.)	Meter Reads	Flow Rate (gpm)	Operator tagged out
02-19-95	INT-85	Injection		0.33	
	INT-86	Injection		1.00	
	INT-16	Production		0.16	
	S1-50	Injection		1.85	
	S1-19	Production		3.40	back on 2/22/95
02-20-95	S1-56	Injection		3.85	
	S1-57	Injection		2.50	
	INT-87	Injection		0.51	
	INT-88	Injection		1.33	
	INT-89	Injection		1.10	
02-21-95	S1-46	Production		20.0	
	INT-15	Production		0.85	
	INT-90	Injection		2.75	
	INT-100	Injection		0.10	
02-22-95	INT-99	Injection		2.75	
	INT-91	Injection		1.69	
	INT-92	Injection		3.00	
	INT-93	Injection		1.00	
02-23-95	INT-94	Injection		0.08	
	INT-95	Injection		1.30	
	INT-96	Injection		1.00	
	S1-44	Production		9.00	
02-24-95	INT-201	Injection		1.21	
	S1-51	Injection		0.70	
	INT-33	Production		0.18	
	S1-40	Production		10.0	
02-25-95	S1-52	Injection		1.12	
	S1-53	Injection		1.75	
	INT-32	Production		1.00	
	INT-31	Production		1.55	
02-26-95	S1-41	Production		9.00	
	S1-45	Production		3.00	
	INT-30	Production		1.63	
	INT-29	Production		3.00	

TABLE 4-6 (Continued)

Schedule for Shut-Down of INT and S1 Pumping and Injection Wells

Date	Well #	Type (Prod. or Inj.)	Meter Reads	Flow Rate (gpm)	Operator tagged out
02-27-95	INT-25	Production		0.40	
	INT-214	Production		5.10	
	INT-211	Production		1.90	
	INT-216	Production		0.70	
02-28-95	S1-24	Production		7.00	
	S1-31	Production		3.50	
	S1-47	Production		2.01	
	S1-18	Production		1.67	
4-13-95	INT-14	Production		.15	
	INT-18	Production		.44	
	INT-65	Production		.80	
	INT-66	Production		1.70	
6-5-95	S1-20	Production .		3.81	
	S1-21	Production		11.02	
	S1-66	Injection		5.6	
	S1-67	Injection		8.0	
6-12-95	S1-59	Injection		5.7	
	S1-68	Injection		3.4	
7-15-95	INT-202	Injection		1.1	

4.3 Pending Issues

4.3.1 S1 Unit Pulse Pumping

No wells are on a pulse pump program this period. Schedule of well shut-off is included as Table 4-6.

4.4 Operational Refinements

Shut off INT-202 injection well inside INT-11 containment wall. Converted S1-20, INT-2, and INT-3 to injection wells. Convert INT-113 monitoring well to injection. Placed INT-231, -232, -233, -234, -235, and -236 on line as production wells.

4.5 Data Summary and Discussion

4.5.1 Groundwater Production and Injection

Groundwater production target rates were adjusted to 90 gpm to compensate for the expanded shut-off. Injection rate target remains the same.

4.5.2 Groundwater Levels and Flow Directions

The current extent of contaminated groundwater is contained within the S1 and INT extraction system capture zones.

4.5.3 TOC in shallow groundwater

TOC analyses on production wells were completed the first week in July. The analyses are in Table 4-7 and Table 4-8. There was a slight increase in TOC levels when the new INT wells were placed on line.

4.5.4 In-Situ Bioremediation

The emphasis continues to be to maximize delivery of oxygen and nutrients to the INT system. Dissolved oxygen analysis was conducted on the monitoring wells during the third well volume pumped.

4.6 Schedule

Convert INT-120 monitoring well to pumping well. Convert INT-20 to combination pumping and injection.

TABLE 4-7

History of TOC Concentrations at S1 Production Wells

HISTORY OF TOC CONCENTRATIONS
AT S1 PRODUCTION WELLS

Well ID	Baseline Nov-Dec 91 (ppm)	Sep 1994 (ppm)	Nov 1994 (ppm)	Dec 1994 (ppm)	Jan 1995 (ppm)	Feb 1995 (ppm)	Mar 1995 (ppm)	Apr 1995 (ppm)	May 1995 (ppm)	June 1995 (ppm)	July 1995 (ppm)
S1-1	290	1,133	1,215	NS	1,592	NS	NS	NS	NS	NS	NS
S1-2	190	1,251	NS	NS	1,044	NS	NS	NS	NS	NS	NS
S1-3	370	568	750	NS	624	NS	NS	NS	NS	NS	NS
S1-4	47	620	576	NS	582	NS	NS	NS	NS	NS	NS
S1-5	51	NS	NS	NS	504	NS	NS	NS	NS	NS	NS
S1-6	51	928	NS	NS	774	NS	NS	NS	NS	NS	NS
S1-7	200	660	NS	NS	708	NS	NS	NS	NS	NS	NS
S1-8	64	935	909	NS	708	NS	NS	NS	NS	NS	NS
S1-9	77	567	NS	NS	1,520	NS	NS	NS	NS	NS	NS
S1-10	46	567	2,001	NS	2,205	1,860	448	1,680	NS	NS	NS
S1-11	120	2,510	1,825	NS	2,121	2,320	40	1,608	NS	NS	NS
S1-12	140	2,355	1,086	NS	1,850	1,960	344	105	NS	NS	NS
S1-13	520	1,077	960	NS	678	820	312	0	NS	NS	NS
S1-14	590	1,440	1,000	NS	1,392	1,430	592	1,340	NS	NS	NS
S1-15	5,300	2,583	1,450	NS	2,597	2,530	1,488	3,059	NS	NS	NS
S1-16	8,900	NS	1,744	NS	1,050	330	136	288	NS	NS	NS
S1-17	6,800	141	92	NS	73	76	72	46	29	30	10
S1-18	2,200	49	45	NS	24	37	72	23	NS	NS	NS
S1-19	20	39	22	NS	14	16	32	18	13	NS	NS
S1-20	120	60	43	NS	21	16	17	6	6	NS	NS
S1-21	65	42	11	NS	6	3	11	15	BDL	NS	NS
S1-22	290	64	31	NS	30	55	NS	199	135	196	227
S1-23	350	29	20	NS	13	12	NS	7	NS	NS	NS
S1-24	250	42	17	NS	13	10	NS	19	NS	NS	NS
S1-25	550	33	23	NS	13	13	NS	10	27	18	17
S1-26	540	49	16	NS	14	11	NS	10	25	16	22
S1-27	220	88	128	NS	25	31	NS	24	34	31	3
S1-28	370	21	18	NS	14	16	NS	10	31	22	21
S1-29	670	33	20	NS	16	11	NS	23	31	18	1
S1-30	370	86	28	NS	20	22	NS	15	NS	17	28
S1-31	14	29	25	NS	12	11	NS	NS	NS	NS	NS
S1-32	18	73	40	NS	35	37	41	73	19	18	32
S1-33	10	567	NS	NS	NS	NS	NS	NS	NS	NS	NS
S1-34	11	18	NS	NS	NS	NS	NS	NS	NS	NS	NS
S1-35	24	37	NS	NS	28	NS	NS	NS	NS	NS	NS
S1-36	200	39	NS	NS	NS	NS	NS	NS	NS	NS	NS
S1-37	13	36	NS	NS	NS	NS	NS	NS	NS	NS	NS
S1-38	59	22	NS	NS	NS	NS	NS	NS	NS	NS	NS
S1-39	290	17	NS	NS	10	12	NS	NS	NS	NS	NS
S1-40	150	17	18	NS	18	21	NS	NS	NS	NS	NS
S1-41	170	16	NS	NS	10	16	NS	NS	NS	NS	NS
S1-42	88	22	NS	NS	NS	NS	NS	NS	NS	NS	NS
S1-43	4	14	NS	NS	NS	NS	NS	NS	NS	NS	NS
S1-44	280	28	NS	NS	9	19	NS	NS	NS	NS	NS
S1-45	4,400	24	NS	NS	10	32	NS	NS	NS	NS	NS
S1-46	480	24	10	NS	4	11	NS	NS	NS	NS	NS
S1-47	1,200	31	NS	NS	24	28	NS	NS	NS	NS	NS
S1-48	1,200	22	NS	NS	15	22	NS	NS	NS	NS	NS
S1-60	48	17	NS	NS	8	14	NS	NS	NS	NS	NS
S1-61	NS	368	152	NS	78	116	108	63	23	16	24
S1-62	NS	27	18	NS	20	14	11	3	4	7	19
S1-63	NS	241	150	NS	155	120	70	47	27	24	27
S1-64	NS	66	55	NS	44	50	43	61	52	29	36

NS = Not Sampled

TABLE 4-8

History of TOC Concentrations at INT Production Wells

HISTORY OF TOC CONCENTRATIONS
AT INT PRODUCTION WELLS

Well ID	Baseline Nov-Dec 91 (ppm)	Sep 1994 (ppm)	Nov 1994 (ppm)	Dec 1994 (ppm)	Jan 1995 (ppm)	Feb 1995 (ppm)	Mar 1995 (ppm)	Apr 1995 (ppm)	May 1995 (ppm)	June 1995 (ppm)	July 1995 (ppm)
INT-1	3,600	320	253	NS	204	270	273	369	172	212	185
INT-2	1,800	281	214	NS	91	492	563	253	692	741	435
INT-3	5,200	932	1,550	NS	1,016	940	624	551	452	270	142
INT-4	610	430	NS	NS	198	180	209	229	149	128	145
INT-5	960	103	90	NS	76	70	45	87	68	72	123
INT-6	280	195	100	NS	76	72	46	65	68	65	74
INT-7	100	101	38	NS	120	123	NS	116	102	115	96
INT-8	75	64	43	NS	47	45	NS	47	43	43	30
INT-9	800	70	NS	NS	68	58	NS	72	129	154	57
INT-10	1,900	82	135	NS	45	45	20	55	56	62	78
INT-11	590	113	31	NS	31	27	29	50.4	43	23	37
INT-12	3,300	74	23	NS	32	16	31	72	65	145	53
INT-13	590	50	23	NS	34	12	NS	11	9	11	5
INT-14	24	119	53	NS	39	50	54	0	NS	NS	NS
INT-15	19	47	18	NS	17	16	NS	NS	NS	NS	NS
INT-16	2,000	68	9	NS	6	11	NS	NS	NS	NS	NS
INT-17	7	19	14	NS	8	14	NS	NS	NS	NS	NS
INT-18	4	57	29	NS	24	20	31	35	NS	NS	NS
INT-19	1,400	38	39	NS	56	49	NS	38	714	38	83
INT-20	3,500	1,182	NS	NS	1,480	1,476	1,425	998	1480	1080	719
INT-21	29	190	NS	NS	204	132	540	188	200	240	137
INT-22	8	95	NS	NS	117	135	199	160	135	110	108
INT-23	16	112	NS	NS	35	40	30	NS	29	48	44
INT-24	240	84	65	NS	58	56	NS	47	48	42	36
INT-25	36	29	NS	NS	20	18	NS	NS	NS	NS	NS
INT-26	120	122	123	NS	110	108	NS	107	76	80	73
INT-27	180	79	80	NS	65	75	NS	65	50	52	44
INT-28	630	37	23	NS	22	26	NS	47	37	60	53
INT-29	1,100	76	58	NS	35	40	NS	NS	NS	NS	NS
INT-30	1,400	45	24	NS	27	20	NS	NS	NS	NS	NS
INT-31	70	82	30	NS	20	19	NS	NS	NS	NS	NS
INT-32	880	22	11	NS	12	16	NS	NS	NS	NS	NS
INT-33	120	20	17	NS	10	9	NS	NS	NS	NS	NS
INT-55	NS	122	61	NS	65	48	NS	78	44	29	22
INT-56	NS	297	146	NS	132	120	NS	131	104	73	89
INT-57	NS	66	51	NS	75	68	NS	55	61	54	31
INT-58	NS	34	33	NS	28	29	NS	26	21	23	25
INT-59	NS	79	49	NS	50	42	NS	61	43	47	43
INT-60	NS	110	85	NS	86	80	NS	90	75	73	73
INT-61	NS	39	40	NS	31	31	NS	32	27	39	27
INT-62	NS	35	43	NS	29	20	NS	28	25	64	64
INT-65	NS	66	61	NS	51	41	NS	50	NS	NS	NS
INT-66	NS	120	94	NS	94	85	NS	51	NS	NS	NS
INT-143	NS	NS	NS	NS	NS	NS	NS	NS	NS	11	14
INT-205	NS	61	39	NS	34	34	NS	50	42	39	36
INT-206	NS	107	86	NS	68	60	NS	51.5	46	20	20
INT-207	NS	45	60	NS	74	92	95	100.1	70	69	72
INT-208	NS	22	16	NS	11	18	NS	16	NS	10	11
INT-209	NS	37	19	NS	13	17	NS	6	4.3	1.6	5
INT-210	NS	27	28	NS	23	26	NS	28	27	20	22
INT-211	NS	43	46	NS	29	41	NS	NS	NS	NS	NS
INT-212	NS	27	38	NS	41	38	NS	69	48	48	42
INT-213	NS	83	70	NS	91	143	NS	89	205	66	63
INT-214	NS	46	31	NS	22	26	NS	NS	NS	NS	NS
INT-215	NS	82	82	NS	56	67	NS	43	44	41	28
INT-216	NS	34	28	NS	26	34	NS	NS	NS	NS	NS
INT-217	NS	66	61	NS	60	62	NS	75	72	60	63
INT-228	NS	NS	NS	NS	NS	NS	NS	NS	NS	25	19
INT-229	NS	NS	NS	NS	NS	NS	NS	NS	NS	3.6	NS
INT-230	NS	NS	NS	NS	NS	NS	NS	NS	NS	16	NS
NS = Not Sampled											
Averages											
S1	784	387	439	NS	451	336	226	337	33	34	36
INT	957	125	89	NS	100	105	263	111	148	105	84

TABLE 4-9

Sample Results for Laboratory TOC, BOD5, and COD

Well	BOD - 5 Day	TOC	COD
INT-127	64	114	448
INT-020	1010	1060	4510
S1-062	ND	6.9	85
INT-102	ND	ND	18
INT-120	ND	ND	20
S1-102	ND	ND	31
S1-113	ND	ND	35
REI-10-2	244	178	617
REI-10-3	>2120	2160	7830
S1-121	56	13.6	28
S1-129	ND	9.2	534
S1-132	56	33.9	161
R-2 EFF	102	13.7	80
T-101 INF	19	21.6	101

TABLE 4-10

Dissolved Oxygen at Production Wells

Well	9/1/94	11/23/94	1/1/95	3/26/95	4/5/95	5/28/95	6/30/95	7/27/95
S1-1	2.1	0.8	1.6	NM	NM	NM	NM	NM
S1-2	1.7	1.6	1.1	NM	NM	NM	NM	NM
S1-3	1.8	1.0	1.1	NM	NM	NM	NM	NM
S1-4	2.0	0.8	0.9	NM	NM	NM	NM	NM
S1-5	NM	NM	1.6	NM	NM	NM	NM	NM
S1-6	1.6	NM	0.8	NM	NM	NM	NM	NM
S1-7	1.3	NM	1.2	NM	NM	NM	NM	NM
S1-8	1.1	0.7	0.8	NM	NM	NM	NM	NM
S1-9	0.8	NM	1.5	NM	NM	NM	NM	NM
S1-10	0.6	0.5	1.0	NM	0.9	NM	NM	NM
S1-11	1.1	0.9	1.4	NM	0.8	NM	NM	NM
S1-12	1.1	1.3	1.5	NM	1.4	NM	NM	NM
S1-13	1.7	1.3	1.5	NM	0.7	NM	NM	NM
S1-14	1.1	0.4	0.8	NM	0.8	NM	NM	NM
S1-15	1.4	0.7	0.7	NM	0.9	NM	NM	NM
S1-16	NM	1.2	2.9	NM	2.7	NM	NM	NM
S1-17	1.2	0.8	1.4	NM	1.7	2.0	2.9	3.8
S1-18	2.4	1.4	2.2	NM	6.8	NM	NM	NM
S1-19	3.4	3.9	6.6	NM	6.5	4.2	NM	2.6
S1-20	1.6	1.7	3.2	NM	13.0	10.2	NM	NM
S1-21	15+	15+	15+	NM	13.6	15+	NM	NM
S1-22	1.5	0.7	1.6	NM	1.8	1.4	0.8	0.8
S1-23	1.9	1.5	4.8	NM	15.0	NM	NM	NM
S1-24	0.9	2.6	1.8	NM	2.4	NM	NM	NM
S1-25	0.8	0.8	1.4	NM	2.2	0.7	0.8	0.8
S1-26	2.2	0.7	1.1	NM	1.4	0.7	1.0	0.7
S1-27	1.4	1.9	2.0	NM	1.9	0.6	1.2	0.7
S1-28	1.2	1.2	1.7	NM	5.0	0.4	1.3	2.3
S1-29	1.9	2.2	4.4	NM	2.5	0.8	3.2	2.1
S1-30	1.5	1.1	4.2	NM	1.8	NM	1.0	3.4
S1-31	1.8	1.6	1.2	NM	NM	NM	NM	NM
S1-32	1.4	1.5	1.6	0.6	2.2	NM	1.6	0.7
S1-33	1.4	NM	NM	NM	NM	NM	NM	NM
S1-34	1.2	NM	NM	NM	NM	NM	NM	NM
S1-35	1.7	NM	1.5	NM	NM	NM	NM	NM
S1-36	0.9	NM	NM	NM	NM	NM	NM	NM
S1-37	1.3	NM	NM	NM	NM	NM	NM	NM
S1-38	15+	NM	NM	NM	NM	NM	NM	NM
S1-39	1.3	2.9	3.2	NM	NM	NM	NM	NM
S1-40	2.2	1.0	2.0	NM	NM	NM	NM	NM
S1-41	1.0	1.0	1.4	NM	NM	NM	NM	NM
S1-42	14.0	NM	NM	NM	NM	NM	NM	NM
S1-43	2.2	NM	NM	NM	NM	NM	NM	NM
S1-44	1.8	6.0	1.8	NM	NM	NM	NM	NM
S1-45	2.9	2.3	5.1	NM	NM	NM	NM	NM
S1-46	13.5	15+	15+	NM	NM	NM	NM	NM
S1-47	9.6	8.7	5.4	NM	NM	NM	NM	NM
S1-48	5.3	4.2	5.0	NM	NM	NM	NM	NM
S1-60	6.1	4.4	5.6	NM	NM	NM	NM	NM
S1-61	1.1	0.8	1.2	0.8	2.0	2.6	2.6	13.2
S1-62	1.4	2.8	12.6	NM	15.0	15+	15+	11.7
S1-63	2.2	0.9	4.0	0.9	4.2	9.7	4.2	7.7
S1-64	2.4	1.8	4.1	0.9	15.0	2.7	2.7	2.8

TABLE 4-10 (Continued)

Dissolved Oxygen at Production Wells

Well	9/1/94	11/23/94	1/1/95	3/26/95	4/5/95	5/28/95	6/30/95	7/27/95
INT-1	1.1	1.4	3.0	1.0	1.2	0.8	3.2	0.8
INT-2	1.5	0.8	0.8	0.4	1.4	0.4	1.1	1.0
INT-3	1.0	1.0	1.4	0.4	1.7	0.6	0.8	2.6
INT-4	0.9	1.1	1.2	0.5	1.0	0.8	1.8	0.8
INT-5	2.3	1.1	1.0	1.0	1.8	0.8	1.3	0.7
INT-6	0.7	1.3	1.4	1.0	1.4	0.6	1.0	0.5
INT-7	1.5	1.0	0.6	NM	0.9	0.6	1.1	0.9
INT-8	1.8	1.0	1.9	NM	1.4	0.6	1.0	0.9
INT-9	1.2	NM	1.4	NM	1.8	0.6	0.8	1.1
INT-10	1.9	1.4	1.7	0.8	2.4	0.6	3.1	2.6
INT-11	1.1	2.2	3.4	3.3	7.6	8.3	5.8	9.7
INT-12	2.2	13.8	13.8	15 +	15.0	7.2	5.0	15.0
INT-13	0.9	7.8	1.6	NM	2.7	2.8	10.6	1.8
INT-14	1.8	1.7	1.7	0.7	2.4	NM	NM	NM
INT-15	1.4	1.6	2.0	NM	NM	NM	NM	NM
INT-16	2.1	3.0	1.8	NM	NM	NM	NM	NM
INT-17	2.9	2.2	2.6	NM	NM	NM	NM	NM
INT-18	1.8	1.2	1.5	NM	1.2	NM	NM	NM
INT-19	2.4	1.4	1.1	NM	1.3	1.9	3.0	9.2
INT-20	1.3	0.9	1.2	0.5	1.3	0.6	1.2	0.7
INT-21	1.7	2.6	3.0	0.6	0.9	0.8	1.3	3.8
INT-22	0.8	1.0	1.1	0.6	2.1	0.9	0.8	0.7
INT-23	1.1	2.4	2.3	NM	NM	3.0	3.2	1.7
INT-24	1.8	2.0	2.6	NM	1.8	3.8	2.7	3.7
INT-25	12.5	15+	10.2	NM	NM	NM	NM	NM
INT-26	1.4	1.6	2.3	NM	1.7	2.8	1.5	2.4
INT-27	1.6	1.2	1.4	NM	1.2	1.7	0.9	1.0
INT-28	5.2	7.4	4.6	NM	1.0	1.9	1.0	0.9
INT-29	5.2	4.0	4.4	NM	NM	NM	NM	NM
INT-30	9.5	9.4	1.8	NM	NM	NM	NM	NM
INT-31	1.4	4.1	5.3	NM	NM	NM	NM	NM
INT-32	15+	15+	15+	NM	NM	NM	NM	NM
INT-33	2.5	1.9	2.5	NM	NM	NM	NM	NM
INT-55	3.4	2.0	2.2	NM	0.9	1.0	2.6	1.6
INT-56	1.2	1.5	1.6	NM	0.8	0.4	1.5	0.8
INT-57	6.2	2.8	3.1	NM	2.9	0.8	5.7	2.9
INT-58	1.9	1.9	1.6	NM	1.3	0.4	1.4	1.0
INT-59	2.2	2.4	3.0	NM	1.2	1.0	2.2	1.0
INT-60	1.8	1.9	2.4	NM	1.8	1.4	1.9	5.7
INT-61	2.7	1.8	2.6	NM	2.0	1.5	1.8	3.9
INT-62	1.0	2.1	2.6	NM	2.3	1.6	1.1	0.9
INT-65	2.1	1.0	1.2	NM	1.6	NM	NM	NM
INT-66	2.2	1.0	3.1	NM	6.8	NM	NM	NM

TABLE 4-10 (Continued)

Dissolved Oxygen at Production Wells

Well	9/1/94	11/23/94	1/1/95	3/26/95	4/5/95	5/28/95	6/30/95	7/27/95
INT-143	NM	NM	NM	NM	NM	NM	15+	15+
INT-205	1.8	1.8	2.8	NM	2.3	1.1	3.5	1.4
INT-206	1.1	2.4	1.2	NM	1.2	1.0	3.1	1.5
INT-207	4.6	1.0	1.2	NM	0.7	0.8	0.8	0.8
INT-208	1.3	3.4	11.8	NM	8.4	NM	13.0	14.4
INT-209	2.8	15+	14.8	NM	14.8	15+	15+	15+
INT-210	15+	15+	15+	NM	11.6	15+	15+	14.0
INT-211	1.9	2.0	2.0	NM	NM	NM	NM	NM
INT-212	1.6	2.2	1.8	NM	2.2	0.7	2.4	1.0
INT-213	1.2	1.2	2.0	NM	2.8	1.2	0.9	0.7
INT-214	3.8	4.6	2.8	NM	NM	NM	NM	NM
INT-215	5.2	3.6	3.0	NM	3.1	5.2	5.8	2.4
INT-216	3.4	4.2	2.7	NM	NM	NM	NM	NM
INT-217	1.6	1.2	1.8	NM	1.1	1.0	1.7	1.3
INT-228	NM	NM	NM	NM	NM	NM	2.1	9.1
INT-229	NM	NM	NM	NM	NM	NM	1.0	NM
INT-230	NM	NM	NM	NM	NM	NM	2.0	NM

TABLE 4-11

Dissolved Oxygen at Monitoring Wells

	3/4/94	6/1/94	9/2/94	12/15/94	2/7/95	3/25/95	4/9/95	5/4/95	6/11/95
ERT-1	1.0	0.8	0.2	1.2	NM	NM	NM	NM	NM
ERT-3	1.0	1.0	0.2	1.8	NM	NM	NM	NM	NM
ERT-7	1.0	0.8	0.2	NM	NM	NM	NM	NM	NM
ERT-8	1.0	0.6	0.2	2.2	NM	NM	NM	NM	NM
ERT-9	1.0	1.3	0.4	NM	NM	NM	NM	NM	NM
ERT-22	NM	NM	NM	NM	NM	NM	0.6	8.4	5.6
ERT-24	0.8	NM	NM	2.0	NM	NM	NM	NM	NM
ERT-25	1.8	1.0	NM	1.6	NM	NM	NM	NM	NM
ERT-26	0.8	NM	NM	2.3	NM	NM	NM	NM	NM
ERT-27	1.9	NM	NM	NM	NM	NM	NM	NM	NM
ERT-28	6.4	NM	NM	4.8	NM	NM	NM	NM	NM
ERT-29	1.2	NM	NM	NM	NM	NM	NM	NM	NM
ERT-30	7.5	NM	NM	NM	NM	NM	NM	NM	NM
ERT-33	1.1	0.4	NM	1.1	NM	NM	NM	NM	NM
ERT-34	0.9	0.6	NM	NM	NM	NM	NM	NM	NM
FLTG-1	0.8	0.3	NM	3.6	NM	NM	NM	NM	NM
FLTG-2	1.0	1.2	NM	NM	NM	NM	NM	NM	NM
FLTG-3	1.3	0.8	NM	NM	NM	NM	NM	NM	NM
FLTG-4	1.0	0.6	NM	NM	NM	NM	NM	NM	NM
FLTG-5	0.8	0.4	NM	3.0	NM	NM	NM	NM	NM
FLTG-6	1.2	1.6	NM	NM	NM	NM	NM	NM	NM
FLTG-7	1.6	0.6	0.8	2.0	0.4	0.2	0.3	0.2	0.3
FLTG-8	1.7	0.8	0.4	2.5	0.4	NM	NM	NM	NM
FLTG-9	1.2	11.4	15+	NM	15+	NM	NM	NM	NM
FLTG-10	1.1	2.2	2.6	3.2	1.2	NM	NM	NM	NM
FLTG-11	0.6	0.6	0.5	NM	NM	NM	NM	NM	NM
FLTG-12	0.8	1.8	0.6	NM	NM	NM	NM	NM	NM
FLTG-13	0.3	0.8	0.4	2.6	1.3	NM	NM	NM	NM
FLTG-14	0.6	0.8	0.4	2.4	0.2	NM	NM	NM	NM
FLTG-15	0.8	1.2	NM	2.4	NM	NM	NM	NM	NM
INT-59-P1	1.6	0.5	0.6	NM	1.2	NM	NM	NM	NM
INT-59-P4	1.4	0.9	0.6	NM	0.6	NM	NM	NM	NM
INT-60-P1	1.7	1.0	0.4	NM	0.2	NM	NM	NM	NM
INT-60-P4	1.4	0.8	0.4	NM	0.5	NM	NM	NM	NM
INT-101	1.0	0.4	0.2	2.6	0.3	0.2	0.3	0.3	1.0
INT-102	0.6	0.6	NM	15+	15+	14.9	15+	15+	6.9
INT-103	2.2	0.7	0.1	1.3	0.2	NM	NM	NM	NM
INT-104	2.3	4.8	0.3	4.6	3.2	NM	NM	NM	NM
INT-105	1.2	0.7	0.4	4.6	0.4	NM	NM	NM	NM

TABLE 4-11 (Continued)

Dissolved Oxygen at Monitoring Wells

	3/4/94	6/1/94	9/2/94	12/15/94	2/7/95	3/25/95	4/9/95	5/4/95	6/11/95
INT-106	15+	15+	15+	15.0	4.7	NM	NM	NM	NM
INT-107	15+	15+	15+	15.0	15+	NM	NM	NM	NM
INT-108	1.1	0.2	0.2	2.1	1.7	0.2	0.3	1.5	0.2
INT-109	1.6	0.8	0.5	2.2	0.2	NM	NM	NM	NM
INT-110	1.6	0.9	0.8	0.8	0.4	NM	NM	NM	NM
INT-111	1.2	1.4	2.0	2.8	1.4	NM	NM	NM	NM
INT-112	15+	15+	15+	15.0	15+	15+	15+	15+	15+
INT-113	0.9	15+	15+	10.3	2.0	NM	NM	NM	NM
INT-114	1.6	0.8	0.4	1.5	0.2	NM	NM	NM	NM
INT-115	1.2	1.0	0.8	4.6	0.7	NM	NM	NM	NM
INT-116	2.4	3.8	NM	2.4	NM	NM	NM	NM	NM
INT-117	2.7	2.8	NM	3.1	NM	NM	NM	NM	NM
INT-118	4.8	2.2	NM	2.0	NM	NM	NM	NM	NM
INT-119	1.1	0.7	1.1	1.1	0.3	NM	NM	NM	NM
INT-132	2.0	1.8	0.4	3.6	0.7	NM	NM	NM	NM
INT-133	0.8	1.2	0.5	1.9	0.6	NM	NM	NM	NM
INT-134	0.6	0.6	0.6	1.8	0.6	NM	NM	NM	NM
INT-135	0.6	0.8	0.6	6.8	0.7	0.2	0.4	0.2	1.9
INT-137	1.0	1.8	0.8	3.1	2.4	NM	NM	NM	NM
INT-138	0.8	0.8	0.4	2.3	0.6	NM	NM	NM	NM
INT-139	0.6	0.8	0.9	1.1	0.5	NM	NM	NM	NM
P-5	1.0	0.4	0.1	0.6	0.2	NM	NM	NM	NM
P-6	1.0	0.6	0.3	NM	NM	NM	NM	NM	NM
REI-10-2	1.2	0.8	0.4	1.1	0.2	NM	NM	NM	NM
REI-10-3	0.6	0.8	0.3	0.8	0.3	NM	NM	NM	NM
REI-12-2	0.8	2.0	NM	2.4	NM	NM	NM	NM	NM
S1-101	1.1	0.8	0.2	0.8	0.2	NM	NM	NM	NM
S1-102	1.6	0.6	0.4	0.5	0.2	0.3	0.2	0.3	0.3
S1-103	0.8	6.6	2.3	1.2	0.2	NM	NM	NM	NM
S1-104	1.6	0.8	1.8	3.9	15+	NM	NM	NM	NM
S1-105	15+	15+	0.2	1.4	6.8	NM	NM	NM	NM
S1-106	0.8	0.8	0.4	0.6	0.1	0.2	0.5	0.3	0.3
S1-107	5.4	15+	15+	15.0	15+	NM	NM	NM	NM
S1-108	1.6	0.0	0.6	15.0	15+	NM	NM	NM	NM
S1-109	8.4	15+	15+	5.2	15+	NM	NM	NM	NM
S1-110	1.3	1.4	0.6	0.6	0.2	NM	NM	NM	NM
S1-111	2.0	0.8	15+	15.0	15+	NM	NM	NM	NM
S1-112	0.6	1.4	0.7	2.4	0.2	NM	NM	NM	NM
S1-113	1.8	0.8	0.4	2.7	0.5	0.3	0.3	0.2	0.3

TABLE 4-11 (Continued)

Dissolved Oxygen at Monitoring Wells

	3/4/94	6/1/94	9/2/94	12/15/94	2/7/95	3/25/95	4/9/95	5/4/95	6/11/95
S1-114	0.8	1.2	0.4	1.5	0.4	NM	NM	NM	NM
S1-115	1.8	1.6	NM	3.2	NM	NM	NM	NM	NM
S1-116	0.8	0.7	NM	2.1	NM	NM	NM	NM	NM
S1-117	2.0	2.3	NM	2.9	NM	NM	NM	NM	NM
S1-118	1.6	0.6	NM	3.4	NM	NM	NM	NM	NM
S1-135	1.2	1.3	0.2	0.8	NM	NM	NM	NM	NM
S1-137	1.0	1.0	0.8	1.0	NM	NM	NM	NM	NM
S1-50-P1	15+	1.7	15+	NM	NM	NM	NM	NM	NM
S1-50-P3	15+	15+	11.6	NM	1.6	NM	NM	NM	NM
S1-51-P1	1.0	1.3	15+	NM	NM	NM	NM	NM	NM
S1-51-P3	1.5	0.8	0.6	NM	0.3	NM	NM	NM	NM
S2-101	NM	NM	NM	3.8	NM	NM	NM	NM	NM
SG-1	NM	NM	NM	NM	NM	NM	NM	NM	NM
SG-2	NM	NM	NM	NM	NM	NM	NM	NM	NM
SG-3	NM	NM	NM	NM	NM	NM	NM	NM	NM
SG-4	NM	NM	NM	NM	NM	NM	NM	NM	NM
SG-5	NM	NM	NM	NM	NM	NM	NM	NM	NM
W-3	1.1	0.2	0.5	1.8	0.2	NM	NM	NM	NM
W-4	1.4	0.4	0.5	NM	NM	NM	NM	NM	NM
W-5	1.6	0.2	0.4	NM	NM	NM	NM	NM	NM
W-7	0.8	1.0	0.3	2.6	NM	NM	NM	NM	NM

5.0 GROUNDWATER TREATMENT PLANT

5.1 Summary of Activities

Operation of the Groundwater Treatment concentrated on repairs and calibration of instrumentation and controls after a severe lightening storm on July 4, 1995. For several days, flow controls were operated in manual position until repairs could be made.

Six new production wells were placed on line in July which increased the loading of TOC and chlorinated hydrocarbons in the plant. Detention times in the reactors reduced the TOC values, but the July 24th lab analysis detected 479 ppb of chlorinated hydrocarbons.

On July 27, 1995, R-2 was taken out of service to conduct a groundwater TOC/BOD5 experiment. Results through August 1, 1995, are included as Table 5-3.

There have been no excursions in the discharge standards for this reporting period.

Total flows for July, 1995:

Water discharged to the San Jacinto River - 4,184,300 gallons

Water discharged to the Lagoon - 0

Sludge discharged to the Lagoon - 38,775 gallons

Water processed through the GWT - 3,786,200 metered gallons
- plus approximately 240,000 unmetered/lightening damage to FQ-101 meter

Water discharged to the South Pond - 0

Water blended passed Carbon Filter - 4,183,700 gallons

Water treated through Carbon Filter - 17,800 gallons

Water processed from Cell D to GWT plant: metered - 0

Cell D injection at S1-1 through S1-9: metered - 81,000 gallons

5.2 Inoculum/Nutrient Addition

The following have been introduced into the bioreactors/clarifier:

Nutrients:
540 gallons Diammonium Phosphate

Microbes:
16 oz. French Limited Isolated Microbes

Coagulant:
- 6.0 gallons Percol 778 Cationic Polymer

5.3 Maintenance

Table 5-1 lists the preventive maintenance items performed in July.

5.4 Operating Data

Table 5-2 summarizes the laboratory analysis of the treated water discharged to the San Jacinto River.

TABLE 5-1

Preventive Maintenance

Day	Action
July 6	Completed safety inspection of all electrical tools and extension cords.
July 7	Lubed all sliding gate rollers.
July 11	Lubed and exercised all valves in GWT Plant.
July 13	Lubed sludge pump at clarifier.
July 18	Serviced all pumps and motors in GWT.
July 20	Checked oil and lubed blowers 1 and 3.
July 24	Changed filters in Central Filter.
July 27	Rotated SALA pumps.

TABLE 5-2
Treated Water Results Summary

Collected	Set No.	pH (6-9)		TSS 5 PPM		TOC 55 PPM		O&G 15 PPM		Benzene 150 PPB		Chlor HC's 500 PPB		Total PCBs 0.65 PPB		Napthalene 300 PPB	
		Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg
2-Mar-95	M03A0313	7.47		.5		8.5		2.5		2.5		145.		.16		5.	
6-Mar-95	M03A0314	7.49		1.		8.1		2.5		2.5		128.		.16		5.	
9-Mar-95	M03A0315	7.38		1.		8.		2.5		2.5		193.		.16		5.	
13-Mar-95	M03A0316	7.64		5.		7.2		2.5		2.5		111.		.16		5.	
16-Mar-95	M03A0317	7.55		.5		6.		2.5		2.5		150.		.16		5.	
20-Mar-95	M03A0318	7.41		.5		6.6		2.5		2.5		97.		.16		5.	
23-Mar-95	M03A0319	7.45		1.		6.		2.5		2.5		185.		.16		5.	
27-Mar-95	M03A0320	7.83		3.		12.2		2.5		6.		325.		.16		5.	
30-Mar-95	M03A0321	7.47	7.5	7.	2.2	11.9	8.3	2.5	2.5	6.	3.3	342.	186	.16	.16	5.	5.
3-Apr-95	M03A0322	7.42	7.5	1.	2.2	11.7	8.6	2.5	2.5	6.	3.7	269.	200	.16	.16	5.	5.
6-Apr-95	M03A0323	7.45	7.5	2.	2.3	12.2	9.1	2.5	2.5	6.	4.1	239.	212	.16	.16	5.	5.
10-Apr-95	M03A0324	7.38	7.5	2.	2.4	11.1	9.4	2.5	2.5	6.	4.4	230.	216	.16	.16	5.	5.
13-Apr-95	M03A0325	7.62	7.5	3.	2.2	12.9	10.1	2.5	2.5	6.	4.8	364.	245	.16	.16	5.	5.
17-Apr-95	M03A0326	7.59	7.5	11.	3.4	12.9	10.8	2.5	2.5	6.	5.2	247.	255	.16	.16	5.	5.
20-Apr-95	M03A0327	7.75	7.6	1.	3.4	12.1	11.4	2.5	2.5	6.	5.6	226.	270	.16	.16	5.	5.
24-Apr-95	M03A0328	7.67	7.6	13.	4.8	13.	12.2	2.5	2.5	6.	6.	269.	279.	.16	.16	5.	5.
27-Apr-95	M03A0329	7.51	7.5	1.	4.6	12.2	12.2	2.5	2.5	2.5	5.6	236.	269	.16	.16	5.	5.
1-May-95	M03A0330	7.63	7.6	1.	3.9	12.1	12.2	2.5	2.5	2.5	5.2	177.	251	.16	.16	5.	5.
4-May-95	M03A0331	7.91	7.6	4.	4.2	12.5	12.3	2.5	2.5	2.5	4.8	222.	246	.16	.16	5.	5.
8-May-95	M03A0332	7.95	7.7	4.	4.4	11.3	12.2	2.5	2.5	2.5	4.4	228.	244	.16	.16	5.	5.
11-May-95	M03A0334	7.97	7.7	4.	4.7	10.9	12.21	2.5	2.5	2.5	4.1	235.	245	.16	.16	5.	5.
15-May-95	M03A0333	7.87	7.8	8.	5.2	13.7	12.3	2.5	2.5	2.5	3.7	209.	228	.16	.16	5.	5.
18-May-95	M03A0335	7.73	7.8	6.	4.7	11.	12.1	2.5	2.5	6.	3.7	374.	242	.16	.16	5.	5.
22-May-95	M03A0336	7.88	7.8	1.	4.7	31.	14.2	2.5	2.5	6.	3.7	274.	247	.16	.16	5.	5.
29-May-95	M03A0337	7.76	7.8	1.	3.3	45.	17.7	2.5	2.5	6.	3.7	227.	242	.16	.16	5.	5.
5-Jun-95	M03A0338	7.53	7.8	.5	3.3	12.1	17.7	2.5	2.5	2.5	3.7	189.	237	.16	.16	5.	5.
12-Jun-95	M03A0339	7.78	7.8	1.	3.3	45.8	21.5	2.5	2.5	2.5	3.7	188.	238	.16	.16	5.	5.
19-Jun-95	M03A0440	7.68	7.8	5.	3.4	7.	20.9	2.5	2.5	2.5	3.7	144.	230	.16	.16	5.	5.
26-Jun-95	M03A0441	7.71	7.8	1.	3.1	9.1	20.6	2.5	2.5	2.5	3.7	128.	219	.16	.16	5.	5.
2-Jul-95	M03A0442	7.47	7.7	.5	2.7	6.7	20.2	2.5	2.5	2.5	3.7	180.	213	.16	.16	5.	5.
10-Jul-95	M03A0343	7.76	7.7	5.	2.3	5.2	19.2	2.5	2.5	2.5	3.7	182.	210	.16	.16	5.	5.
17-Jul-95	M03A0344	7.75	7.7	3.	2.	7.6	18.8	2.5	2.5	2.5	3.3	181.	188	.16	.16	5.	5.
24-Jul-95	M03A0345	7.55	7.7	.5	1.9	8.2	16.3	2.5	2.5	5.	3.2	479.	211	.16	.16	5.	5.
31-Jul-95	M03A0346	7.64	7.7	.5	1.9	2.5	11.8	7.8	3.1	5.	3.1	380.	228	.16	.16	5.	5.

Chlorinated hydrocarbons value is the sum of detected concentrations of 21 volatile chlorinated hydrocarbons on target compound list.

TABLE 5-2 (Continued)
Treated Water Results Summary

Collected	Set No.	As 150 PPB		Ba 1000 PPB		Cd 50 PPB		Cr 500 PPB		Cu 15 PPB		Pb 66 PPB		Mn 300 PPB		Hg 1 PPB		Ni 148 PPB		Se 20 PPB		Ag 5 PPB		Zn 162 PPB	
		Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg
2-Mar-95	M03A0313	23.		133.		.1		2.		1.		.5		15.		.1		8.		1.3		.5		6.	
6-Mar-95	M03A0314	17.		130.		1.		1.		3.		2.2		3.		.1		2.5		.5		.8		8.	
9-Mar-95	M03A0315	24.		111.		.1		.2		.8		.5		4.		.1		4.		1.3		.2		6.	
13-Mar-95	M03A0316	17.		121.		.1		.2		1.		.5		41.		.1		3.		1.3		.2		5.	
16-Mar-95	M03A0317	23.		114.		.1		.3		3.		.5		2.		.1		3.		1.3		.2		11.	
20-Mar-95	M03A0318	18.		112.		.1		.2		3.		.5		2.		.1		2.		1.3		.2		3.	
23-Mar-95	M03A0319	19.		119.		.1		.2		2.		.5		2.		.1		3.		1.3		.2		4.	
27-Mar-95	M03A0320	14.		130.		.1		3.		2.		.5		22.		.1		5.		1.3		.2		40.	
30-Mar-95	M03A0321	19.	19.3	132.	122	.1	.2	2.	1.	2.	2.	.5	.7	25.	12.9	.1	.1	6.	4.1	1.3	1.2	.2	.3	8.	10.1
3-Apr-95	M03A0322	17.	18.7	127.	122	.1	.2	.2	.8	2.	2.1	.5	.7	9.	12.2	.1	.1	1.	3.3	1.3	1.2	.2	.2	15.	11.1
6-Apr-95	M03A0323	23.	19.3	102.	119	.1	.1	.2	.7	1.	1.9	.5	.5	4.	12.3	.1	.1	1.	3.1	1.3	1.3	.2	.2	4.	10.7
10-Apr-95	M03A0324	12.	18.	157.	124	.1	.1	2.	.9	2.	2.	2.	.7	32.	15.4	.1	.1	4.	3.1	1.3	1.3	.2	.2	8.	10.9
13-Apr-95	M03A0325	44.	21.	107.	122	.1	.1	1.	1.	2.	2.1	.5	.7	11.	12.1	.1	.1	6.	3.4	1.3	1.3	.2	.2	3.	10.7
17-Apr-95	M03A0326	26.	21.3	171.	129	.1	.1	14.	2.5	2.	2.	1.	.7	108.	23.9	.1	.1	14.	4.7	1.3	1.3	.2	.2	17.	11.3
20-Apr-95	M03A0327	24.	22.	129.	130	.7	.2	7.	3.3	9.	2.7	2.	.9	43.	28.4	.1	.1	10.	5.6	1.3	1.3	.2	.2	34.	14.8
24-Apr-95	M03A0328	21.	22	115.	130.	.1	.2	7.	4.	1.	2.6	.5	.9	38.	32.4	.1	.1	6.	5.9	1.3	1.3	.2	.2	4.	14.8
27-Apr-95	M03A0329	24.	23.3	110.	128	.1	.2	2.	3.9	2.	2.6	.5	.9	12.	31.3	.1	.1	7.	6.1	1.3	1.3	.2	.2	9.	11.3
1-May-95	M03A0330	16.8	23.1	106.	125	1.1	.3	.7	3.8	.7	2.4	.5	.9	6.8	29.3	.1	.1	8.5	6.4	.8	1.2	.5	.2	.2	10.5
4-May-95	M03A0331	21.	23.5	149.	127	1.1	.4	5.9	4.4	1.	2.3	.5	.9	70.4	36.1	.1	.1	7.6	7.1	.8	1.2	.5	.2	16.2	10.6
8-May-95	M03A0332	16.	22.8	126.	130.	.1	.4	1.	4.5	1.6	2.4	.5	.9	6.	36.4	.1	.1	5.	7.6	1.3	1.2	.2	.2	4.	10.6
11-May-95	M03A0334	17.	23.3	158.	130	.1	.4	3.	4.6	.9	2.2	.5	.7	22.	35.2	.1	.1	6.	7.8	1.3	1.2	.2	.2	5.	10.3
15-May-95	M03A0333	17.	20.3	141.	134	.1	.4	2.	4.7	1.	2.1	.5	.7	21.	36.4	.1	.1	5.	7.7	1.3	1.2	.2	.2	4.	10.4
18-May-95	M03A0335	18.	19.4	122.	128	.1	.4	.2	3.2	.3	1.9	.5	.7	4.	24.8	.1	.1	3.	6.5	1.3	1.2	.2	.2	1.5	8.7
22-May-95	M03A0336	14.	18.3	130.	129	.1	.3	1.	2.5	.5	1.	.5	.5	9.	21.	.1	.1	5.	5.9	1.3	1.2	.2	.2	7.	5.7
29-May-95	M03A0337	16.	17.8	176.	135	.1	.3	2.	2.	.3	.9	.5	.5	27.	19.8	.1	.1	1.	5.3	2.8	1.3	.2	.2	4.	5.7
5-Jun-95	M03A0338	12.	16.4	191.	144	.1	.3	2.	2.	1.	.8	.5	.5	18.	20.5	.1	.1	4.	5.	1.3	1.3	.2	.2	5.	5.2
12-Jun-95	M03A0339	13.	16.	204.	155	.1	.2	1.	2.	1.	.8	.5	.5	2.5	20.	.1	.1	4.5	4.6	1.3	1.4	.2	.2	3.	5.5
19-Jun-95	M03A0340	14.	15.2	213.	162	.1	.1	1.	1.5	.8	.8	.5	.5	6.	12.8	.1	.1	5.	4.3	1.3	1.4	.2	.2	1.5	3.9
26-Jun-95	M03A0341	15.	15.1	155.	166	.1	.1	.7	1.4	.7	.7	4.	.9	2.	12.4	.1	.1	4.	4.2	1.3	1.4	.2	.2	6.	4.1
2-Jul-95	M03A0342	17.	15.1	122.	162	.1	.1	1.5	1.3	.5	.7	1.	.9	10.	11.1	.1	.1	5.	4.1	1.5	1.4	.2	.2	6.	4.2
10-Jul-95	M03A0343	13.	14.7	173.	165	.2	.1	.7	1.1	.9	.7	.5	.9	2.	8.9	.1	.1	5.	4.1	1.2	1.4	.2	.2	5.	4.3
17-Jul-95	M03A0344	13.	14.1	172.	171	.1	.1	.9	1.2	1.	.7	.5	.9	2.5	8.8	.1	.1	4.8	4.3	1.2	1.4	.2	.2	2.9	4.5
24-Jul-95	M03A0345	18.	14.6	175.	176	.1	.1	.7	1.2	.9	.8	.5	.9	1.3	7.9	.1	.1	6.6	4.4	1.2	1.4	.2	.2	5.5	4.3
31-Jul-95	M03A0346	12.	14.1	193.	178	.1	.1	.9	1.	.9	.8	2.8	1.2	5.2	5.5	.1	.1	4.6	4.8	1.1	1.2	.2	.2	3.7	4.3

Metals values in PPB.

TABLE 5-3
R-2 Bioreactor Attenuation Test

T-101
Goal - Achieve TOC effluent to equal influent.
Reduced level in T-101 to reduce detention time.

R-2
Goal - Fresh groundwater stocked in tank.
Drain 55,000 gals of 79,000 capacity.
Removed oxygen source.
Achieve flat HMB reading.
Achieve flat OUR reading.
OVM reading at top hatch -
Turn air on to air strip any remaining VOC's.
Direct flow into R-2.
Elevate nutrient to 50 mg/L NH^3-N NO^3-N
1-5 mg/L OPO^4-P
Turn air on to achieve DO saturation at 25°C
8.26 mg/L

Time	R-2	R-1
7/28/95		
0015	Completed filling (air off)	Back in flowthru mode
0030	Grab 2 VOA's & BOD, COD samples Set up Tenax and OVM on hatch 40 gal 37% DAP to R-2 OVM read 5.0 ppm	
0100	Air on R-2	
0140	DO at 8.7 mg/L OVM read - 16 ppm Turned air off	

TABLE 5-3
R-2 Bioreactor Attenuation Test (Continued)

Time	R-2	R-1
0145	OVM - 2.0	44.0 (on-line)
	Temp - 26	26
	pH - 6.72	7.70
	DO - 8.56	8.1
	NH^3-N - 61	27
	PO^4-P - 15	11
	OUR - 0	40.4
	HMB - .55	29.6
	TOC - 34	In - 40 Out - 18
0440	OVM - 4.1	NS
	Temp - 26	
	pH - 7.13	
	DO - 4.8	
	NH^3-N - 67.5	
	PO^4-P - 18	
	OUR - BDL	
	HMB - .21	
	TOC - 32	
0850	OVM - 14.4 - 20.5	NS
	Temp - 27	
	pH - 6.97	
	DO - 2.0	
	OUR - 1.20	
	HMB - 1.61	
	TOC - 29.2	In - 44 Out - 21

TABLE 5-3
R-2 Bioreactor Attenuation Test (Continued)

Time	R-2	R-1
1305	OVM - 40.4 high - 6.0 Temp - 27 pH - 6.98 DO - 3.2 TOC - 28.9 Remove Tenax & OVM 12 hr. TWA	NS In - 37 Out - 16
2300	Temp - 28 DO - .4 pH - 6.98 TOC - 31	28 8.3 7.42 In - 35 Out - 17
	7/29/95	
0355	Temp - 28 DO - 0.4 pH - 7.02 NH^3-N - 66.0 PO^4-P - 20.7 OUR - BDL HMB - 1.20 TOC - 29	27 8.3 7.45 8.0 9.0 7.7 104.6 In - 34 Out - 16
1815	Temp - 27 DO - 1.0 pH - 7.06 TOC - 38	NS In - 37 Out - 15

TABLE 5-3
R-2 Bioreactor Attenuation Test (Continued)

Time	R-2	R-1
2215	Temp - 27	26
	DO - 2.0	8.3
	pH - 7.16	7.51
	TOC - 35	In - 37 Out - 24
	7/30/95	
0145	Temp - 27	26
	DO - 1.7	8.6
	pH - 7.22	7.60
	HN^3-N - 61.6	8
	PO^4-P - 23.3	6.7
	OUR - BDL	6.0
	HMB - 1.23	37.9
	TOC - 32	In - 37 Out - 18
1830	Temp - 26	NS
	DO - 1.0	
	pH - 7.01	
	TOC - 30	
2015	Temp - 26	25
	DO - 2.2	8.3
	pH - 7.26	7.66
	TOC - 30	In - 33 Out - 18

TABLE 5-3
R-2 Bioreactor Attenuation Test (Continued)

Time	R-2	R-1
	7/31/95	
1514	Temp - 28	25
	DO - 0.4	8.6
	pH - 7.08	7.70
	NH3-N - 64.4	7
	PO4-P - 23.3	5
	OUR - .80	NS
	HMB - 1.16	21.9
	TOC - 28	In - 33 Out - 18
	8/1/95	
0240	Temp - 26	26
	DO - 1.2	6.6
	pH - 7.17	7.54
	NH3-N - 54	4
	PO4-P - 25.3	2.3
	OUR - BDL	BDL
	HMB - 1.33	74.6
	TOC - 34	In - 36 Out - 22

6.0 AMBIENT AIR MANAGEMENT

Ambient air quality management continued on an "as-needed" basis to protect the environment, human health, and site workers.

6.1 Summary of Activities

Collected and analyzed three time-integrated personnel exposure samples; the measured levels of volatile organic compounds were well below the action levels.

Sampled the ambient air in all work areas several times per shift and on a random "spot-check" basis; there were no levels of volatile organic compounds which required response action. Sampled ambient air in special work areas where burning and/or welding was planned. Sampled ambient air continuously in areas where exposure could occur and where confined space work occurred.

6.2 Problems and Response Action

Problem	Response Action
Calibrate portable vapor meters.	Train operators to calibrate; refurbish all meters.
Sampling "hot" wells.	Require respirator use when sampling "hot" wells.
Ambient air quality in all work areas.	Check all work areas with portable meter several times per day.
H_2S levels in some well vaults.	Vent vault and purge with air before working in the vaults.

6.3 Problems Resolved

None.

6.4 On-going Events/Activities

Measure ambient air quality in all work areas several times per day.

Conduct periodic time-integrated sampling in all major work areas.

Require respiratory protection when sampling "hot" wells.

Conduct necessary air sampling and analyses to issue "burn" permits.

Closely monitor ambient air quality in the vicinity of new projects/activities.

Conduct respirator fit tests on all employees.

7.0 QUALITY ASSURANCE/QUALITY CONTROL

7.1 Summary of Activities

7.1.1 Sampling

One set of personal air monitoring samples were collected in July. The following is a summary of current routine and special air matrix code sample specifics:

MATRIX CODE	SAMPLE SPECIFICS
M01D	TF at three locations

TF = Tenax® front tube

Table 7-1 is a summary of the air, soil and water samples collected during the month of July.

7.1.2 Data Validation Activities Summary

7.1.2.1 Treated Water Samples

Data validation was completed for sample sets M03A0340, M03A0341, M03A0342 and M03A0343. These samples were collected between June 19, 1995 and July 10, 1995. QC failures are summarized in Table 7-2. Completeness values are summarized in Tables 7-3 through 7-7.

7.1.2.2 Groundwater Samples

Level I data validation was completed for the monthly groundwater monitoring sample sets collected in July. There were no significant analytical QC failures on these sample data.

7.1.2.3 Other Samples

All other special sample sets were validated manually this period.

7.2 Data Validation QC Summary and Discussion

7.2.1 Level I and Level II QC Philosophy

The Quality Assurance Project Plan (QAPP) defines data validity in terms of procedural requirements which must be followed for data comparability, and numerical data quality objectives which must be met to assure precision and accuracy of the results. Precision, accuracy and completeness are the numerical Data Quality Objectives (DQOs) established for the French Project by the QAPP. The intent of the data validation process is to verify that the documentation and quality control data provided by the laboratory properly substantiate the required data quality.

For purposes of data validation procedures, the QAPP defines two QC levels: Level I and Level II. Level I data validation is specified for process control and progress monitoring sample data validation and Level II data validation is specified for remediation verification sample results and treated water discharge sample results.

7.2.2 QA Issues

7.2.2.1 Matrix Interference on Groundwater Samples

Starting with the June monthly groundwater sampling event, extra volume was collected from every 10th well sampled for a set of MS/MSD samples. The samples and analytical data were treated as QC level II. This deviates from the normal routine of treating groundwater samples as level I. The extra data obtained is being used to provide a basis for determining the matrix spike/duplicate recovery limits utilized for remediation verification samples.

All analytical QC was within control limits with the exception of the following:

- Surrogate 1,2-Dichloroethane-d4 was high on the original analysis and a subsequent reanalysis on sample M04B004702 (S1-102). Matrix effect is indicated.
- Matrix spike 1,1-Dichloroethene accuracy and precision were outside control limits on sample M04B004401 (INT-134). The FLTG QAPP only specifies MS/MSD accuracy and precision control limits for Benzene and Vinyl Chloride.

TABLE 7-1

Samples Collected - July, 1995

Sample No.	Description	Location	Date Samp'd	Lab Rec'd	Data Rec'd	Lab
M01D005801	Personal air monitoring	WTP Operator	7/07	7/08	Y	A
M01D005802	Personal air monitoring	Well Maint.	7/07	7/08	Y	A
M01D005803	Personal air monitoring	T-101 Area	7/07	7/08	Y	A
M03A034201	Treated water discharge	CF Out	7/02	7/03	Y	A
M03A034301	Treated water discharge	CF Out	7/10	7/11	Y	A
M03A034401	Treated water discharge	CF Out	7/17	7/18	N	A
M03A034501	Treated water discharge	CF Out	7/24	7/25	N	A
M03A034601	Treated water discharge	CF Out	7/31	8/01	N	A
M04B004401	Monthly GW monitoring	INT-134	7/01	7/02	Y	A
M04B004402	Monthly GW monitoring	INT-135	7/01	7/02	Y	A
M04B004403	Monthly GW monitoring	INT-137	7/01	7/02	Y	A
M04B004404	Monthly GW monitoring	INT-138	7/01	7/02	Y	A
M04B004405	Monthly GW monitoring	INT-140	7/01	7/02	Y	A
M04B004406	Monthly GW monitoring	INT-141	7/01	7/02	Y	A
M04B004407	Monthly GW monitoring	INT-142	7/01	7/02	Y	A
M04B004408	Monthly GW monitoring	INT-144	7/01	7/02	Y	A

Labs: A = American Analytical and Technical Services
N = North Water District Lab
K = Chester LabNet-Houston

TABLE 7-1

Samples Collected - July, 1995

Sample No.	Description	Location	Date Samp'd	Lab Rec'd	Data Rec'd	Lab
M04B004501	Monthly GW monitoring	INT-132	7/02	7/03	Y	A
M04B004502	Monthly GW monitoring	INT-133	7/02	7/03	Y	A
M04B004503	Monthly GW monitoring	ERT-022	7/02	7/03	Y	A
M04B004507	Monthly GW monitoring	INT-110	7/02	7/03	Y	A
M04B004508	Monthly GW monitoring	INT-111	7/02	7/03	Y	A
M04B004601	Monthly GW monitoring	INT-119	7/03	7/04	Y	A
M04B004602	Monthly GW monitoring	INT-101	7/03	7/04	Y	A
M04B004603	Monthly GW monitoring	INT-115	7/03	7/04	Y	A
M04B004604	Monthly GW monitoring	FLTG-007	7/03	7/04	Y	A
M04B004605	Monthly GW monitoring	INT-104	7/03	7/04	Y	A
M04B004606	Monthly GW monitoring	INT-106	7/03	7/04	Y	A
M04B004607	Monthly GW monitoring	INT-112	7/03	7/04	Y	A
M04B004608	Monthly GW monitoring	S1-113	7/03	7/04	Y	A
M04B004701	Monthly GW monitoring	S1-063	7/04	7/05	Y	A
M04B004702	Monthly GW monitoring	S1-102	7/04	7/05	Y	A
M04B004703	Monthly GW monitoring	S1-106	7/04	7/05	Y	A
M04B004704	Monthly GW monitoring	S1-107	7/04	7/05	Y	A
M04B004705	Monthly GW monitoring	S1-109	7/04	7/05	Y	A

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TABLE 7-1

Samples Collected - July, 1995

Sample No.	Description	Location	Date Samp'd	Lab Rec'd	Data Rec'd	Lab
M04B004708	Monthly GW monitoring	INT-127	7/04	7/05	Y	A
M04B004709	Monthly GW monitoring	S1-050-P-2	7/04	7/05	Y	A
M04B004801	Monthly GW monitoring	S1-114	7/05	7/06	Y	A
M04B004802	Monthly GW monitoring	S1-120	7/05	7/06	Y	A
M04B004803	Monthly GW monitoring	S1-123	7/05	7/06	Y	A
M04B004804	Monthly GW monitoring	S1-127	7/05	7/06	Y	A
M04B004805	Monthly GW monitoring	S1-128	7/05	7/06	Y	A
M04B004806	Monthly GW monitoring	S1-132	7/05	7/06	Y	A
M04B004807	Monthly GW monitoring	S1-134	7/05	7/06	Y	A
M04B004808	Monthly GW monitoring	INT-120	7/05	7/06	Y	A
M04B004809	Monthly GW monitoring	INT-123	7/05	7/06	Y	A
M04B004901	Monthly GW monitoring	REI-10-2	7/06	7/07	Y	A
M04B004902	Monthly GW monitoring	REI-10-3	7/06	7/07	Y	A
M04B005001	Monthly GW monitoring	S1-011	7/20	7/21	N	A
M04B005002	Monthly GW monitoring	S1-013	7/20	7/21	N	A
M04B005101	Monthly GW monitoring	ERT-022	7/29	7/31	N	A

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TABLE 7-1

Samples Collected - July, 1995

Sample No.	Description	Location	Date Samp'd	Lab Rec'd	Data Rec'd	Lab
M04B005102	Monthly GW monitoring	FLTG-007	7/29	7/31	N	A
M04B005103	Monthly GW monitoring	INT-115	7/29	7/31	N	A
M04B005104	Monthly GW monitoring	INT-119	7/29	7/31	N	A
M04B005105	Monthly GW monitoring	S1-106	7/29	7/31	N	A
M04B005106	Monthly GW monitoring	S1-107	7/29	7/31	N	A
M04B005107	Monthly GW monitoring	S1-109	7/29	7/31	N	A
M04B005108	Monthly GW monitoring	S1-114	7/29	7/31	N	A
M04B005201	Monthly GW monitoring	INT-101	7/31	8/01	N	A
M04B005202	Monthly GW monitoring	S1-102	7/31	8/01	N	A
M06C002901	Monthly process monitoring	T-101 Eff	7/05	7/06	Y	A
M06C002902	Monthly process monitoring	T-101 Inf	7/05	7/06	Y	A
M06C002903	Monthly process monitoring	R1	7/05	7/06	Y	A
M06C002904	Monthly process monitoring	R2	7/05	7/06	Y	A
M06C002905	Monthly process monitoring	Cell D Liqr	7/05	7/06	Y	A
M08C001301	Riverdale well monitoring	RD-3	7/05	7/05	Y	N
M08D001601	Riverdale well monitoring	RD-3	7/05	7/06	Y	A

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TABLE 7-1

Samples Collected - July, 1995

Sample No.	Description	Location	Date Samp'd	Lab Rec'd	Data Rec'd	Lab
M08E000101	Potable water analytical confirmation	Potable H2O	7/12	7/13	Y	A
M08E000201	Potable water analytical confirmation	Potable H2O	7/13	7/14	Y	A
M08E000301	Potable water analytical confirmation	Potable H2O	7/13	7/13	Y	K
S14D001001		FLTG-002	7/20	7/21	Y	A
S14D001002		FLTG-003	7/20	7/21	Y	A
S14D001003		FLTG-007	7/20	7/21	Y	A
S14D001004		INT-101	7/20	7/21	Y	A
S14D001005		S1-105	7/20	7/21	Y	A
S14D001006		S1-106	7/20	7/21	Y	A
S14D001101		INT-102	7/21	7/22	Y	A
S14D001102		INT-120	7/21	7/22	Y	A
S14D001103		S1-102	7/21	7/22	Y	A
S14D001104		S1-113	7/21	7/22	Y	A
S14D001105		REI-10-2	7/21	7/22	Y	A
S14D001106		REI-10-3	7/21	7/22	Y	A
S14D001107		S1-121	7/21	7/22	Y	A
S14D001108		S1-129	7/21	7/22	Y	A
S14D001109		S1-132	7/21	7/22	Y	A
S14D001110		R-2 Eff	7/21	7/22	Y	A
S14D001111		T-101 Inf	7/21	7/22	Y	A
S14D001112		River Dischg	7/21	7/22	Y	A
S14D001113		INT-127	7/21	7/22	Y	A
S14E000201		S1-115	7/24	7/25	Y	A
S14E000202		S1-117	7/24	7/25	Y	A
S14E000203		REI-12-2	7/24	7/25	Y	A

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TABLE 7-1

Samples Collected - July, 1995

Sample No.	Description	Location	Date Samp'd	Lab Rec'd	Data Rec'd	Lab
S14E000301		S1-116	7/25	7/26	Y	A
S14E000302		INT-116	7/25	7/26	Y	A
S14E000303		INT-117	7/25	7/26	Y	A
S14E000401		FLTG-015	7/26	7/27	Y	A
S14E000501		FLTG-015	7/28	7/29	N	A
S14E000601		GW-013	7/31	8/01	N	A
S16E000601	R-2 bio-treatability	R2	7/28	7/29	N	A

Labs: A = American Analytical and Technical Services
N = North Water District Lab
K = Chester LabNet-Houston

TABLE 7-2

Treated Water QC Failure Summary

Sample Date	Test	QC Failure	Explanation	Corrective Action
07/02/95	BA	ICP Serial Dilution	ICP serial dilution indicated interference.	None required - LCS, Dup and Spike were within QC limits.

7.2.3 Completeness Summaries

Tables 7-3 through 7-7 summarize completeness values for VOA, SVA, PCBs, Metals and miscellaneous parameters on treated water samples.

VOA (Table 7-3)

A total of 4 VOA sample sets have been validated with all categories meeting Project Completeness Goals.

SVA (Table 7-4)

A total of 4 SVA sample sets have been validated for this time period. All categories meet or exceed Project Completeness Goals with the exception of sample matrix effect. This is due to matrix effect failures in the early stages of the project and the MS/MSD accuracy failures that occurred during September and October 1994.

PCBs (Table 7-5)

A total of 4 PCB sample sets have been validated for this time period with all samples, meeting data quality objectives. All categories meet or exceed Project Completeness Goals.

Metals (Table 7-6)

A total of 4 sample sets have been validated for this time period. Project Completeness Goals are met or exceeded in all categories.

Miscellaneous Parameters (Table 7-7)

A total of 4 sample sets have been validated for this time period. Project completeness goals are met or exceeded in all categories.

TABLE 7-3

Completeness Summary
M03A Treated Water
Volatile Organics Analyses

SAMPLE DATE SET NUMBER	M03A0340 thru M03A0343	Project to Date	PROJECT GOAL
Analysis Holding Time	100	100	100
12 Hour Window	100	100	100
SU Check	100	94	90
SU1 (d4-1,2-DCE)	100	97	90
SU2 (d8-Toluene)	100	98	90
SU3 (4-BFB)	100	99	90
IS Check	100	100	90
IS1 (BrClMethane)	100	100	90
IS2 (1,4-DiFlBenzene)	100	100	90
IS3(d5-ClBenzene)	100	100	90
Sample RT/RRT Check	100	*	
Vinyl Chloride			
Accuracy	100	99	90
Precision	100	99	90
Benzene			
Accuracy	100	99	90
Precision	100	100	90
No Group Matrix Effect	100	*	90
No Sample Matrix Effect	100	*	90
Tune Check	100	*	
Overall ICAL Check	100	*	
Overall CCAL Check	100	*	
Overall Lab Blank Check	100	*	

* - Level II QC checks were performed on 10% of samples prior to 6/14/93.
PTD completeness values do not apply to these checks.

TABLE 7-4

Completeness Summary
M03A Treated Water
Semivolatile Organic Analyses

SAMPLE DATE SET NUMBER	M03A0340 thru M03A0343	Project to Date	PROJECT GOAL
Extract Holding Time	100	100	100
Analysis Holding Time	100	100	100
12 Hour Window	100	100	100
SU Check	**100**	**95**	**90**
SU1 (2-FlPhenol)	100	95	90
SU2 (d5-Phenol)	100	94	90
SU3 (d5-Nitrobenz)	100	96	90
SU4(2-FlBiphenyl)	100	98	90
SU5(2,4,6-TBPh)	100	94	90
SU6(d14-Terphen)	75	94	90
IS Check	**100**	**98**	**90**
IS1 (d4-1,4-DiClBenz)	100	100	90
IS2 (d8-Naph)	100	100	90
IS3 (d10-Acenaph)	100	100	90
IS4 (d10-Phenanth)	100	100	90
IS5 (d12-Chrysene)	90	97	90
IS6 (d12-Perylene)	100	96	90
Sample RT/RRT	100	*	*
Napthalene			
Accuracy	100	96	90
Precision	100	99	90
No Group Matrix Effect	100	99	90
No Sample Matrix Effect	100	89	90
Tune Check	100	*	*
Overall ICAL Check	100	*	*
Overall CCAL Check	100	*	*
Overall Lab Blank Check	100	*	*

* - Level II QC checks were performed on 10% of samples prior to 6/14/93.
PTD completeness values do not apply to these checks.

TABLE 7-5

Completeness Summary
M03A Treated Water
PCB Analyses

SAMPLE DATE SET NUMBER	M03A0340 thru M03A0343	Project to Date	PROJECT GOAL
Extract Holding Time	100	100	100
Analysis Holding Time	100	100	100
12 Hour Window	100	100	100
SU Check - Column A	100	99	90
SU1 (DCBP)	100	88	NS
SU2 (TCMX)	100	97	NS
SU Check - Column B	100	98	90
SU1 (DCBP)	100	87	NS
SU2 (TCMX)	100	97	NS
SU Check - Column A or B	100	98	90
Aroclor 1242			
Accuracy	100	99	90
Precision	100	97	90
Overall ICAL Check	100	*	
Overall 1st CCAL Check	100	*	
Overall 2nd CCAL Check	100	*	
Overall Lab Blank Check	100	*	

* - Level II QC checks were performed on 10% of samples prior to 6/14/93.
PTD completeness values do not apply to these checks.

TABLE 7-6

Completeness Summary
M03A Treated Water
Metals Analyses

SAMPLE DATE SET NUMBER	M03A0340 thru M03A0343	PROJECT GOAL
ANALYTE: BARIUM		
MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100
ANALYTE: CADMIUM		
MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100
ANALYTE: CHROMIUM		
MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100
ANALYTE: COPPER		
MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100
ANALYTE: LEAD		
MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100

W - All samples waived due to low response

* Matrix interference is indicated by:
Furnace analyses - failure of analytical spike or low MSA coefficient
ICP analyses - failure of serial dilution

TABLE 7-6 (Continued)

Completeness Summary
M03A Treated Water
Metals Analyses

SAMPLE DATE SET NUMBER	M03A0340 thru M03A0343	PROJECT GOAL
ANALYTE: MANGANESE		
MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100
ANALYTE: NICKEL		
MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100
ANALYTE: SILVER		
MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100
ANALYTE: ZINC		
MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100
ANALYTE: MERCURY		
MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100

W - All samples waived due to low response

* Matrix interference is indicated by:
Furnace analyses - failure of analytical spike or low MSA coefficient
ICP analyses - failure of serial dilution

TABLE 7-6 (Continued)

Completeness Summary
M03A Treated Water
Metals Analyses

SAMPLE DATE SET NUMBER	M03A0340 thru M03A0343	PROJECT GOAL
ANALYTE:ARSENIC		
MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100
ANALYTE: SELENIUM		
MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100

W - All samples waived due to low response

* Matrix interference is indicated by:
Furnace analyses - failure of analytical spike or low MSA coefficient
ICP analyses - failure of serial dilution

TABLE 7-7

Completeness Summary
M03A Treated Water
Miscellaneous Parameters Analyses

SAMPLE DATE SET NUMBER	M03A0340 thru M03A0343	Project to Date	PROJECT GOAL
PARAMETER: TOC			
Analysis Hold Time	100	100	100
MS Accuracy	100	100	NA
DUP Precision	100	100	NA
PARAMETER: OILS			
Analysis Hold Time	100	100	100
MS Accuracy	100	100	NA
DUP Precision	100	100	NA
PARAMETER: TSS			
Analysis Hold Time	100	100	100
MS Accuracy	NA	NA	NA
DUP Precision	100	100	NA

8.0 SITE MAINTENANCE

8.1 Summary of Activities

8.1.1 General Housekeeping

The site safety and housekeeping inspections and responses kept grounds safe and attractive for employees and visitors.

8.1.2 Purchasing

All purchases were covered by written requisitions and purchase orders. Purchase of chemicals is now reduced to groundwater treatment and insitu remediation.

8.1.3 Equipment Maintenance

Routine preventive and production maintenance was performed on all equipment.

8.2 Visitors

The following visitors were recorded at the site during July:

July 3:	(b) (6) [redacted] (b) (6) [redacted]
July 5:	(b) (6) [redacted], BSCHOOL
July 6:	G.E. Brewer, AATS Rick Schmidt, Walts Refurb Mark Lottig, Walts Refurb
July 8:	Hari Daydl, VTMB Usha Daydl, VTMB J. Bliutt, Barrett Station Civic League

Jeannie Rideau, Barrett Station Civic League
Jim Bergamo, KTRK-TV
Kevin Greer, KTRK-TV
Casey Norton, KTRK-TV

July 9: Bobby Harris

July 17: Chip Boxley, Texas Trees
Ken Kirsch, Texas Trees

July 28: (b) (6) BSCHOOL
(b) (6) BSCHOOL
(b) (6) BSCHOOL

8.3 Emergency Equipment

8.3.1 Flood Gate Test

The flood gate was exercised on July 23, 1995, with one small leak detected at the threshold.

8.3.2 P-8 Auxiliary Pump

P-8 Auxiliary Pump has been converted to the lagoon ground cover vegetation sprinkler source. It has operated approximately 80 hours in July.

8.3.3 Fire Extinguishers

All fire extinguishers were inspected and certified.

8.4 Security

Smith Security provides 24-hour security at the FLTG site, including the south side of Gulf Pump Road; all site areas are checked hourly. No incidents reported by Security in July.

8.5 Operator Training

All training is documented and records are maintained on site.

8.6 Data Management

Data base is fully operational. Data is entered on a daily basis.

8.7 Personnel Monitoring

Results of personnel monitoring conducted during July are included in Table 8-1. A Tenax tube was set in the T-101 work area during personnel monitoring. These results are included in this table.

8.8 OVM System

Work areas are being monitored daily with Organic Vapor Monitor 580A.

8.9 Repository

Records from the July review are listed in Attachment 8A.

8.10 Meteorological Data

The meteorological station was extensively damaged during an electrical storm and will not be repaired. Temperature and rainfall are measured on conventional gauges at the site.

Rainfall data is listed in Table 8-2.

TABLE 8-1

On-Site Employee Contaminant Limits
(From OSHA 29 CFR 1910 Subpart Z)

Compound	PEL 8 hour PPM	1 7-Jul-95 WTP Operator		2 7-Jul-95 Well Maintenance		3 7-Jul-95 T-101 Area	
		% of PEL	PPM	% of PEL	PPM	% of PEL	PPM
Chloromethane	50	0.001	0.000	0.004	0.002	0.001	0.000
Bromomethane	5	0.000	0.000	0.006	0.000	0.000	0.000
Vinyl chloride	1	0.000	0.000	0.000	0.000	0.005	0.000
Chloroethane	1000	0.000	0.000	0.000	0.000	0.000	0.000
Dichloromethane	50	0.012	0.006	0.014	0.007	0.000	0.000
Acetone	750	0.000	0.002	0.000	0.002	0.000	0.000
Carbon disulfide	10	0.013	0.001	0.000	0.000	0.000	0.000
1,1-Dichloroethene	5	0.000	0.000	0.000	0.000	0.000	0.000
1,1-Dichloroethane	100	0.000	0.000	0.000	0.000	0.003	0.003
trans-1,2-Dichloroethe	200	0.007	0.014	0.000	0.001	0.001	0.003
Chloroform	10	0.015	0.001	0.000	0.000	0.178	0.018
1,2-Dichloroethane	10	0.000	0.000	0.000	0.000	0.049	0.005
2-Butanone	200	0.000	0.000	0.002	0.003	0.000	0.000
1,1,1-Trichloroethane	350	0.000	0.001	0.000	0.000	0.000	0.000
Carbon Tetrachloride	5	0.031	0.002	0.000	0.000	0.169	0.008
Vinyl acetate	10	0.000	0.000	0.000	0.000	0.000	0.000
Bromodichloromethane			0.002		0.000		0.000
1,2-Dichloropropane	75	0.000	0.000	0.000	0.000	0.000	0.000
cis-1,3-Dichloropropen	1	0.000	0.000	0.000	0.000	0.000	0.000
Trichloroethene	50	0.002	0.001	0.000	0.000	0.006	0.003
Dibromochloromethane			0.000		0.000		0.000
1,1,2-Trichloroethane	10	0.000	0.000	0.000	0.000	0.000	0.000
Benzene	1	0.087	0.001	0.016	0.000	0.011	0.000
trans-1,3-Dichloroprop	1	0.000	0.000	0.000	0.000	0.000	0.000
2-Chloroethylvinyl ether			0.000		0.000		0.000
Bromoform	0.5	0.000	0.000	0.000	0.000	0.000	0.000
4-Methyl-2-pentanone	50	0.000	0.000	0.000	0.000	0.000	0.000
2-Hexanone	5	0.000	0.000	0.000	0.000	0.000	0.000
Tetrachloroethene	50	0.010	0.005	0.001	0.001	0.001	0.001
1,1,2,2-Tetrachloroet	1	0.000	0.000	0.000	0.000	0.000	0.000
Toluene	100	0.004	0.004	0.001	0.001	0.000	0.000
Chlorobenzene	10	0.012	0.001	0.000	0.000	0.000	0.000
Ethylbenzene	100	0.002	0.002	0.000	0.000	0.000	0.000
Styrene	50	0.001	0.000	0.000	0.000	0.000	0.000
Xylene (total)	100	0.002	0.002	0.000	0.000	0.000	0.000
Hexane			0.001		0.002		0.000

TABLE 8-2

Rainfall Data for July, 1995

Day	Rain Total (Inches)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00
11	0.00
12	0.00
13	0.00
14	0.00
15	0.00
16	0.00
17	0.00
18	0.00
19	0.00
20	0.02
21	0.00
22	0.00
23	0.00
24	0.00
25	0.00
26	0.00
27	0.00
28	0.00
29	0.03
30	1.30
31	0.30
Total Rainfall	1.65

ATTACHMENT 8A

Repository Status Report: July, 1995

REPOSITORY STATUS REPORT: July, 1995

At the Rice University Library...

1. Remedial Investigation Report April, 1985

2. Remedial Investigation Report Appendices, Volume II, April, 1985

3. Remedial Investigation Report June, 1986 (Updated from April, 1985)

4. Remedial Investigation Report Appendices, Volume I, February, 1986 (Revised June, 86)

5. Remedial Investigation Report Appendices, Volume II, February, 1986 (Revised June, 1986)

6. Remedial Investigation Report Appendices, Volume III, February, I986

7. 1986 Field Investigation and Supplemental Remedial Investigation Report Volume I, December, 1986

8. 1986 Field Investigation and Supplemental Remedial Investigation Report French Limited Site Volume II, Appendices December, 1986

9. 1986 Field Investigation Hydrology Report, December 19, 1986

10. Endangerment Assessment Report February, 1987

11. Endangerment Assessment Report April I987 (Updated from February, 1987)

12. Feasibility Study Report, March 1987

13. In Situ Biodegradation Demonstration Report Volume I Executive Summary, October 30, 1987 Revised 11-11-87

14. In Situ Biodegradation Demonstration Supplemental Report French Limited Site Volume I, November 30, 1987

15. In Situ Biodegradation Demonstration Report Volume II, October 30, 1987 (Revised February 1, 1988 at Site only)

16. In Situ Biodegradation Demonstration Supplemental Report French Limited Site Volume II, November 30, 1987 + Appendices

17. In Situ Biodegradation Demonstration Report Volume III Appendices, October 30, 1987

18. In Situ Biodegradation Demonstration Report Volume III, Appendices, Supplemental Report, November 30, 1987

19. In Situ Biodegradation Demonstration Report French Limited Site, Volume IV October 30, 1987 + Appendices

20. In Situ Biodegradation Demonstration Supplemental Report French Limited Site, Volume IV November 30, 1987 + Appendices

21. In Situ Biodegradation Demonstration Report French Limited Site Volume V, October 30, 1987

22. In Situ Biodegradation Demonstration Report French Limited Site Volume V Appendices, November 30, 1987 - Supplemental Report

23. In Situ Biodegradation Demonstration Report French Limited Site Volume VI Appendices, October 30, 1987

24. In Situ Biodegradation Demonstration Report French Limited Site Volume VII Appendices, October 30, 1987

25. In Situ Biodegradation Demonstration Report French Limited Site Volume VIII Appendices, October 30, 1987

26. In Situ Biodegradation Demonstration Report French Limited Site Volume IX Appendices, October 30, 1987

27. In Situ Biodegradation Demonstration Report French Limited Site Volume X Appendices, October 30, 1987

28. In Situ Biodegradation Demonstration Report French Limited Site Volume XI Appendices, October 30, 1987

29. In Situ Biodegradation Demonstration Report French Limited Site Volume XII Appendices, October 30, 1987

30. In Situ Biodegradation Demonstration Report French Limited Site Volume XIII Appendices, October 30, 1987

31. In Situ Biodegradation Demonstration Report French Limited Site Volume XIV Appendices, October 30, 1987

32. In Situ Biodegradation Demonstration Report French Limited Site Volume XV Appendices, October 30, 1987

33. In Situ Biodegradation Demonstration Report French Limited Site Volume XVI Appendices, October 30, 1987

34. In Situ Biodegradation Demonstration Report French Limited Site Volume XVII Appendices, October 30, 1987

35. In Situ Biodegradation Demonstration Report French Limited Site Volume XVIII Appendices, October 30, 1987

36. Proposed In Situ Biodegradation Demonstration French Limited Site Phase III, April, 1987

37. In Situ Bioremediation Demonstration French Limited April, 1987 Monthly Report, Equipment Evaluation Phase IV

38. In Situ Bioremediation Demonstration French Limited May, 1987 Monthly Report, Equipment Evaluation Phase IV

39. In Situ Bioremediation Demonstration French Limited June, 1987 Monthly Report, Equipment Evaluation Phase IV

40. In Situ Bioremediation Demonstration French Limited July, 1987 Monthly Report, Equipment Evaluation Phase IV

41. In Situ Bioremediation Demonstration French Limited August, 1987 Monthly Report, Equipment Evaluation Phase IV

42. In Situ Bioremediation Demonstration French Limited November, 1987 Monthly Report, Equipment Evaluation Phase IV

43. In Situ Bioremediation Demonstration French Limited December, 1987 Monthly Report, Equipment Evaluation Phase IV

44. In Situ Bioremediation Demonstration French Limited January, 1988 Monthly Report, Equipment Evaluation Phase IV

45. In Situ Bioremediation Demonstration French Limited February, 1988 Monthly Report, Equipment Evaluation Phase IV

46. In Situ Bioremediation Demonstration French Limited March, 1988 Monthly Report, Equipment Evaluation Phase IV

47. In Situ Bioremediation Demonstration French Limited April, 1988 Monthly Report, Equipment Evaluation Phase IV

48. In Situ Biodegradation Demonstration French Limited May/June 1988 Monthly Report, Equipment Evaluation Phase IV

49. In Situ Bioremediation Demonstration French Limited July, 1988 Monthly Report, Equipment Evaluation Phase IV

50. In Situ Bioremediation Demonstration French Limited August, 1988 Monthly Report, Equipment Evaluation Phase IV

51. In Situ Bioremediation Demonstration French Limited September, 1988 Monthly Report, Equipment Evaluation Phase IV

52. Supplemental Biodegradation Equipment Evaluation French Limited Site - Phase IV, September 26, 1988

53. In Situ Biodegradation Demonstration Phase III Quality Assurance Project Plan for French Limited Site, March, 1987

54. Addendum to Quality Assurance Project Plan for the French Limited Site In Situ Biodegradation Demonstration Phase III, February 16, 1990

55. Site Safety and Health Plan French Limited Site - Phase III, April 1987 (Revision 2)

56. Remedial Action Plan Volume I - April, 1990

57. Remedial Action Plan Volume I - September, 1990 (Updated from April, 1990)

58. Remedial Action Plan Volume II Quality Assurance April, 1990

59. Remedial Action Plan Volume II Quality Assurance September, 1990 (Updated from April 1990) Revised June 3, 1991

60. Remedial Action Plan Volume II Quality Assurance June, 1990 Appendix A - Quality Assurance Sampling Procedures and Appendix B - Analytical Methods - B.1 - B.53, September 22, 1989 Revised September 28, 1990

61. Remedial Action Plan Volume III - Health and Safety, July 20, 1990

62. Remedial Action Plan Volume IV - Spill and Volatile Organic Release Contingency Plan (April 6, 1990)

63. Remedial Action Plan Volume V - Shallow Aquifer and Subsoil Remediation Process Design, May, 1990
Page v.i.3 Missing

64. Remedial Action Plan Volume V - Shallow Aquifer and Subsoil Remediation Process Design, July 20, 1990, (Updated from May, 1990)

65. 1988 Equipment Evaluation Phase IV Report French Limited Site: Volume I, February 1,1990

66. 1988 Equipment Evaluation Phase IV Report French Limited Site: Volume II, February 1, 1990

67. 1988 Slough Investigation Report French Limited Site, October 1988

68. Ambient Air Impact Risk Assessment Report, May 5, 1989

69. Workplan for the Shallow Aquifer Pumping Tests for the French Limited Site, July 22, 1988
Page 80 Missing

70. French Limited Site Hurricane Gilbert Preparation Report, October, 1988

71. Potable Water Well Installation Report French Limited Site, December 7, 1988

72. Bioresidue Fixation Alternatives Evaluation Report French Limited Site March 20, 1989

73. Hydrogeologic Characterization Report, March 1989

74. Hydrogeologic Characterization Report - Appendices, March 1989

75. San Jacinto River May 19, 1989 Flood Event Report, June 1989

76. Post San Jacinto River May 1989 Flood Event Soils and Water Analysis Program - Volume I, August 16, 1989

77. Post San Jacinto River 1989 Flood Event Soil and Water Analysis Program Volume II Appendix A

78. Post San Jacinto River 1989 Flood Event Soil and Water Analysis Program Volume III Appendix A, August 16, 1989

79. Riverdale Lake Area Remediation Program August 15, 1989

80. Flood and Migration Control Wall Design Report, August 16, 1989

81. Flood and Migration Control Wall Design Report Appendix C Access Way Design, September, 1989

82. North Pit Remediation Report French Limited Site, November 6, 1989

83. Installation Report for Flood and Migration Control Wall, January 8, 1990

84. Installation Report for Flood and Migration Control Wall
Appendix A - ENSR Site Logs

85. Installation Report for Flood and Migration Control Wall
Appendix B - Inspection Reports

86. Installation Report for Flood and Migration Control Wall Appendix C - Pile Driving Inspection Report January 8, 1990

87. Flood Wall Gate Test Report French Limited Site, February 1990

88. French Limited Remediation Design Report - Executive Summary Bioremediation/Shallow Aquifer, July, 1991

89. Shallow Aquifer and Subsoil Remediation Facilities Design Report Volume I of III - Summary Report and Appendices A-H, July 1991

90. Shallow Aquifer and Subsoil Remediation Facilities Design Report Volume II of III - Appendices I-M, June 1991

91. Shallow Aquifer and Subsoil Remediation Facilities Design Report Volume III of III - Appendices N-P, June 1991

92. Bioremediation Facilities Design Report Volume II of IV Appendices, Reports and Calculations (March 20, 1991)

93. Bioremediation Facilities Design Report Volume III of IV
Appendix E - Design Specifications (March 20, 1991)

94. Bioremediation Facilities Design Report Volume IV of IV - Air Monitoring, March 20, 1991

95. Public Health Assessment for French Limited March 30, 1993 from U.S. Department of Health and Human Services

96. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 1, Report, Appendices A-E

97. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 2, Appendix F

98. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 3, Appendix F continued

99. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 4, Appendix G

100. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 5, Appendix H

101. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 6, Appendix H continued

102. Record of Public Meeting Regarding Remedial Investigation and Feasibility Study (5-21-87)

103. Summary of Remedial Alternative Selection 1988

104. Declaration for the Record of Decision 1988

105. Record of Public Meeting Regarding Remedial Investigation and Feasibility Study (2-11-88) (Updated from June 21, 1987)

106. Consent Decree between the Federal Government and the FLTG

107. French Limited Superfund Site Community Relations Revised Plan August, 1989 - Jacob's Engineering

108. Results of the French Limited Task Group Survey (Goldman and Company) April, 1987

109. Goldman Public Relations Clipping Report

110. BioGEE International, Inc., Project Report Biotreatability Study Using Isolated Indigenous Organisms, April, 1994

111. Field Evaluation of Biodegradation at the French Limited Site (Phase II) Volume I

112. Laboratory Evaluation of Biodegradation at the French Limited Site

113. French Limited Site Focused Feasibility Study (May 1987)

114. Annual Groundwater Monitoring Report, December 1993, Report and Appendices A-B

115. Annual Groundwater Monitoring Report, December 1993, Appendices C-H

116. DNAPL Study Remedial Alternative Selection and Feasibility Study Report, November 1994

117. Cell E and Cell D/F Remediation Verification Report

118. French Limited Wetlands Mitigation, Final Site Restoration Plan

119. French Limited Wetlands Mitigation, Site Selection Report

120. French Limited Wetlands Mitigation, 404 and 401 Permit Application, U.S. Army Corps of Engineers, Galveston, TX

121. Quality Assurance Report, February 15, 1993, Report No. QA93003

122. Quality Assurance Report, January 20, 1994, Report No. QA94001

123. Environmental Protection Agency, Region VI, Hazardous Waste Management Division, First Five Year Review (Type Ia), CERCLIS TXD-980514814, December 1994

124. ARCS, French Limited Site 1993, Annual Groundwater Sampling and Comparison Report, CH2M Hill, January, 1995

125. Annual Groundwater Monitoring Report, December, 1994, Report and Appendices A-G

126. Superfund Preliminary Site Closeout Report CERCLIS TXD-980514814, September, 1994

127. Environmental Protection Agency, Split Sampling and Analysis for Cell D/F, French Limited Site, EPA Contract No: 68-W8-0112, March 1995

128. Monthly Progress Report, January 1992

129. Monthly Progress Report, January, 1992 Appendices A-C

130. Monthly Progress Report, January, 1992 Appendices E, F

131. Monthly Progress Report, January, 1992 Appendices G

132. Monthly Progress Report, February, 1992

133. Monthly Progress Report, February, 1992 Appendices A-B

134. Monthly Progress Report, February, 1992 Appendices C 1

135. Monthly Progress Report, February, 1992 Appendices C 2

136. Monthly Progress Report, February, 1992 Appendices D-E

137. Monthly Progress Report, March, 1992

138. Monthly Progress Report, March, 1992, Appendix A

139. Monthly Progress Report, April, 1992

140. Monthly Progress Report, April, 1992, Appendices A-B

141. Monthly Progress Report, May, 1992

142. Monthly Progress Report, May, 1992, Appendices A-B

143. Monthly Progress Report, June, 1992

144. Monthly Progress Report, June, 1992, Appendices A-B

145. Monthly Progress Report, July 1992

146. Monthly Progress Report, July 1992, Appendices A-B

147. Monthly Progress Report, July 1992, Appendices B1-B22 Vol. 1 of 3

148. Monthly Progress Report, July 1992, Appendices B1-B22 Vol. 2 of 3

149. Monthly Progress Report, July 1992, Appendices B1-B22 Vol. 3 of 3

150. Monthly Progress Report, August, 1992

151. Monthly Progress Report, August, 1992, Appendices A-B

152. Monthly Progress Report, September, 1992

153. Monthly Progress Report, September, 1992, Appendices A-B

154. Monthly Progress Report, October, 1992

155. Monthly Progress Report, October, 1992, Appendices A-B

156. Monthly Progress Report, November, 1992

157. Monthly Progress Report, November, 1992 Appendices A-B

158. Monthly Progress Report, December, 1992

159. Monthly Progress Report, December, 1992 Appendices A, B

160. Monthly Progress Report, January, 1993

161. Monthly Progress Report, February, 1993

162. Monthly Progress Report, March, 1993

163. Monthly Progress Report, April, 1993

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165. Monthly Progress Report, June, 1993

166. Monthly Progress Report, July, 1993

167. Monthly Progress Report, August, 1993

168. Monthly Progress Report, September, 1993

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172. Monthly Progress Report, January, 1994

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178. Monthly Progress Report, July, 1994

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184. Monthly Progress Report, January, 1995

185. Monthly Progress Report, February, 1995

186. Monthly Progress Report, March, 1995

187. Monthly Progress Report, April, 1995

188. Monthly Progress Report, May, 1995

189. Monthly Progress Report, June, 1995

At the Crosby library...

1. Remedial Investigation Report - June, 1986

2. Remedial Investigation Appendices Volume I June, 1986 Revised from Feb. 1986

3. Remedial Investigation Appendices Volume II June, 1986 Revised from Feb. 1986

4. Remedial Investigation Appendices Volume III February, 1986
   Pages 1 and 2 of 10 Res. Engr Tab Missing
   Analytical Report Worksheet 7-8-9-10 Missing
   Pages 1 and 2 of 6 Missing
   Tab 9 H 1-8 Missing, H 11-19 Missing, Page 1 of 10 Missing
   Page 3 Worksheet Missing
   Tab 10 H 1-3 Missing, Page 3-6 of 6 Missing, Page 1-6 Missing
   Tab 12 Page 2-10 of 10 Missing

5. Field Investigation and Supplemental Remedial Investigation Report, Volume I, December, 1986

6. Field Investigation and Supplemental Remedial Investigation Report, Volume II, Appendices, December 1986

7. Field Investigation Hydrology Report, December 19, 1986

8. Feasibility Study Report, March 1987

9. Feasibility Study Report, March 1987

10. French Limited Site Focused Feasibility Study, May 1987

11. Endangerment Assessment Report February 1987

12. Endangerment Assessment Report April 1987

13. Endangerment Assessment Report April 1987

14. In Situ Biodegradation Demonstration Report Volume I Executive Summary October, 1987 (Revised 12-15-87)

15. In Situ Biodegradation Demonstration Report Volume II October 30, 1987

16. In Situ Biodegradation Demonstration Supplemental Report French Limited Site Volume I, November 30, 1987
Missing Supplements to 5-6 and 7 to 10

17. In Situ Biodegradation Demonstration Supplemental Report French Limited Site Volume II, November 30, 1987 + Appendices

18. In Situ Biodegradation Demonstration Supplemental Report French Limited Site Volume III, November 30, 1987 + Appendices

19. In Situ Biodegradation Demonstration Supplemental Report French Limited Site Volume IV, November 30, 1987 -Appendices

20. In Situ Biodegradation Demonstration Supplemental Report French Limited Site Volume V - Appendices, November 30, 1987

21. Results of the French Limited Task Group Survey (Goldman and Company) April 1987

22. Goldman Public Relations Clipping Report

23. Consent Decree between the Federal Government and the FLTG

24. Consent Decree between the Federal Government and the FLTG

25. Laboratory Evaluation of Biodegradation at the French Limited Site, December 1986.

26. Field Evaluation of Biodegradation at the French Limited Site (Phase II) Volume I, March, 1987

27. Bioremediation Facilities Design Report Volume II of IV Appendices, Reports and Calculations March 20, 1991

28. Bioremediation Facilities Design Report Volume III of IV Appendix E - Design Specifications March 20, 1991

29. Bioremediation Facilities Design Report Volume IV of IV Air Monitoring, March 20, 1991

30. Remedial Action Plan Volume I, September 28, 1990

31. Remedial Action Plan Volume II - Quality Assurance, Revised June 3, 1991

32. Remedial Action Plan Volume II - Appendix A - Quality Assurance Sampling Procedures and Appendix B - Analytical Methods - B.1 - B.53, September 28, 1990

33. Remedial Action Plan Volume III - Health and Safety, July 20, 1990

34. Remedial Action Plan Volume V - Shallow Aquifer and Subsoil Remediation Process Design, July 20, 1990

35. Remedial Action Plan Volume V - Shallow Aquifer and Subsoil Remediation Process Design, July 20, 1990

36. Hydrogeologic Characterization Report, March 1989

37. Hydrogeologic Characterization Report Appendices, March 1989

38. Supplemental Biodegradation Equipment Evaluation French Limited Site - Phase IV, September 26, 1988

39. Equipment Evaluation Phase IV Report French Limited Site: Volume I, February 1, 1990

40. Equipment Evaluation Phase IV Report French Limited Site: Volume II, February 1, 1990

41. Site Safety and Health Plan French Limited Site - Phase III, April 1987 (Revision 2)

42. San Jacinto River May 19, 1989 Flood Event Report, June 1989

43. Post San Jacinto River May 1989 Flood Event Soils and Water Analysis Program Volume I, August 16, 1989

44. Post San Jacinto River 1989 Flood Event Soil and Water Analysis Program Volume II, Appendix A

45. Post San Jacinto River 1989 Flood Event Soil and Water Analysis Program Volume III, Appendix A, August 16, 1989

46. Slough Investigation Report French Limited Site, October 1988

47. Flood and Migration Control Wall Design Report, August 16, 1989

48. Flood and Migration Control Wall Design Report (Flood is spelled incorrectly on Volume Cover) + Appendix C - Access way Design September 1989

49. Installation Report for Flood and Migration Control Wall January 8, 1990

50. Installation Report for Flood and Migration Control Wall
Appendix A - ENSR Site Logs

51. Installation Report for Flood and Migration Control Wall
Appendix B - Inspection Reports

52. Installation Report for Flood and Migration Control Wall
Appendix C - Pile Driving Inspection Report January 8, 1990

53. Flood Wall Gate Test Report French Limited Site, February 1990

54. North Pit Remediation Report French Limited Site, November 6, 1989

55. Workplan for the Shallow Aquifer Pumping Tests for the French Limited Site, July 22, 1988
(Additional Title - Pumping Test Program for Shallow Alluvial Aquifer Zone)

56. French Limited Site Hurricane Gilbert Preparation Report October, 1988

57. Riverdale Lake Area Remediation Program, August 15, 1989

58. Addendum to Quality Assurance Project Plan for the French Limited Site In Situ Biodegradation Demonstration Phase III, February 16, 1990

59. Potable Water Well Installation Report French Limited Site, December 7, 1988

60. Bioresidue Fixation Alternatives Evaluation Report French Limited Site
March 20, 1989

61. Ambient Air Impact Risk Assessment Report, May 5, 1989

62. Shallow Aquifer and Subsoil Remediation Facilities Design Report Volume I of III - Summary Report and Appendices A-H, July 1991

63. Shallow Aquifer and Subsoil Remediation Facilities Design Report Volume II of III - Appendices I-M, June 1991

64. Shallow Aquifer and Subsoil Remediation Facilities Design Report Volume III of III - Appendices N-P, June 1991

65. French Ltd. Remediation Design Report Executive Summary Bioremediation Shallow Aquifer July 1991

66. BioGEE International, Inc., Project Report Biotreatability Study Using Isolated Indigenous Organisms, April 15, 1994

67. Black EPA Binder

68. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 1, Report, Appendices A-E

69. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 2, Appendix F

70. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 3 Appendix F continued

71. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 4, Appendix G

72. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 5, Appendix H

73. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 6, Appendix H continued

74. Equipment Evaluation Phase IV Report November, 1987 Monthly Report

75. Equipment Evaluation Phase IV Report December, 1987 Monthly Report

76. Microfiche Field Reports 1988 -small box

77. Annual Groundwater Monitoring Report, December 1993, Report and Appendices A-B

78. Annual Groundwater Monitoring Report, December 1993, Appendices C-H

79. DNAPL Study Remedial Alternative Selection and Feasibility Study Report, November 1994

80. Cell E and Cell D/F Remediation Verification Report

81. French Limited Wetlands Mitigation, Final Site Restoration Plan

82. French Limited Wetlands Mitigation, Site Selection Report

83. French Limited Wetlands Mitigation, 404 and 401 Permit Application, U.S. Army Corps of Engineers, Galveston, TX

84. Quality Assurance Report, February 15, 1993, Report No. QA93003

85. Quality Assurance Report, January 20, 1994, Report No. QA94001

86. Environmental Protection Agency, Region VI, Hazardous Waste Management Division, First Five Year Review (Type Ia), CERCLIS TXD-980514814, December 1944

87. ARCS, French Limited Site 1993, Annual Groundwater Sampling and Comparison Report, CH2M Hill, January, 1995

88. Annual Groundwater Monitoring Report, December, 1994, Report and Appendices A-G

89. Superfund Preliminary Site Closeout Report CERCLIS TXD-980514814, September, 1994

90. Environmental Protection Agency, Split Sampling and Analysis for Cell D/F, French Limited Site, EPA Contract No: 68-W8-0112, March 1995

91. Monthly Progress Report, January, 1992

92. Monthly Progress Report, January, 1992, Appendices A-C

93. Monthly Progress Report, January, 1992, Appendices E-F

94. Monthly Progress Report, January, 1992, Appendix G

95. Monthly Progress Report, February, 1992

96. Monthly Progress Report, February, 1992, Appendices A-B

97. Monthly Progress Report, February, 1992, Appendices C 1

98. Monthly Progress Report, February, 1992 Appendices C 2

99. Monthly Progress Report, February, 1992 , Appendices D-E

100. Monthly Progress Report, March, 1992

101. Monthly Progress Report, March, 1992, Appendix A

102. Monthly Progress Report, April, 1992

103. Monthly Progress Report, April, 1992, Appendices A-B

104. Monthly Progress Report, May, 1992

105. Monthly Progress Report, May, 1992, Appendices A-B

106. Monthly Progress Report, June, 1992

107. Monthly Progress Report, June, 1992, Appendices A-B

108. Monthly Progress Report, July, 1992

109. Monthly Progress Report, July, 1992, Appendices A-B

110. Monthly Progress Report, July, 1992, Appendices B1-B22 Vol. 1 of 3

111. Monthly Progress Report, July, 1992, Appendices B1-B22 Vol. 2 of 3

112. Monthly Progress Report, July, 1992, Appendices B1-B22 Vol. 3 of 3

113. Monthly Progress Report, August, 1992

114. Monthly Progress Report, August, 1992, Appendices A-B

115. Monthly Progress Report, September, 1992

116. Monthly Progress Report, September, 1992, Appendices A-B

117. Monthly Progress Report, October, 1992

118. Monthly Progress Report, October, 1992, Appendices A-B

119. Monthly Progress Report, November, 1992

120. Monthly Progress Report, November, 1992, Appendices A-B

121. Monthly Progress Report, December, 1992

122. Monthly Progress Report, December, 1992, Appendices A-B

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151. Monthly Progress Report, May, 1995

152. Monthly Progress Report, June, 1995

12 Large Brown Folders:

1. Administrative Record Index - 2 folders
   Administrative Record 09-26-79 thru 05-29-83
   Administrative Record 06-03-83 thru 11-28-83
   Administrative Record 02-28-84
   Administrative Record 03-09-84
   Technical Comments on Remediation Investigation Report 2-84
   Supplemental Investigation - Resource Engr. 1-84
   Administrative Record 3-9-84

2. Administrative Record 08-31-84
   Administrative Record 10-29-84 thru 01-22-85
   French Ltd. Technical and Regulatory Concepts for In-Place Closure, 09-84
   Supplementary Investigation, May 1984
   French Ltd. Field Activities Work Plan, February 1985
   Supplementary Investigation Attachments, May 1985

3. Administrative Record 02-04-85
   Remedial Investigation, Vol. I Report, April 1985
   Remedial Investigation, Vol. II Appendices, April 1985

4. Administrative Record 04-08-85 thru 11-26-85
   Administrative Record 02-14-86 thru 04-04-86
   Technical Report for Resource Engineering, 12-03-85
   Appendix QA Program for French Ltd., 12-18-85
   1985 Field Investigation Report Appendices, January, 1986

1985 Field Investigation Report , January, 1986

5. Administrative Record 04-01-86
Remedial Investigation Report Appendices, Vol. II, April, 1986

6. Administrative Record 4-1-86

7. Administrative Record 05-08-86 thru 05-12-86
Administrative Record 06-01-86
Administrative Record 01-05-87
Remedial Investigation Report, June 1986
Laboratory Evaluation of Biodegradation, 12-86
1986 Field Investigation Hydrology Report, 12-86
Endangerment Assessment Report, 2-87

8. Feasibility Study, March 1987

9. Administrative Report 03-11-87 thru 03-25-87
Administrative Report 4-1-87
Administrative Report 4-7-87
In Situ Biodegradation Demonstration Phase III QA Project Plan 3-87
Endangerment Assessment Report, 4-87
Proposed In Situ Biodegradation Demonstration French Limited Site Phase III 4-87

10. Administrative Report 4-15-87 thru 5-I-87
Administrative Report 5-21-87 thru 7-2-87
French Limited Focused Feasibility Study, ERT 5-87
Revised Field Evaluation of Biodegradation at French Site Phase II Vol. I
-Revised 7-10-87

11. Administrative Report 7-20-87 - 11-23-87
Administrative Report Undated Documents 000122-000134
In Situ Biodegradation Demonstration Report Vol. I Executive Summary 10-87
French Limited Site Work Plan Vol. I Project Activities and Sample Plan

12. Texas Air Control Board Regulations I thru IX
Standard Exemption List
Application for Permit

During the month of **July**, the status of both libraries have been reviewed and the above information found to be accurate.

9.0 WETLANDS RESTORATION

9.1 Summary of Activities and Progress

Conducted safety meetings at the start of each work shift; inspected all equipment for safety compliance each shift; used daily lottery ticket safety awareness program.

Updated site work plan based on field progress.

Completed acclamation of the saline marsh zone in preparation for re-vegetation.

Started re-vegetation of the tidally-impacted zone; plants were harvested from the San Jacinto State Park and then replanted on the site; progress has been excellent.

Conducted five site tours for interested parties.

Continued work on a video of the project; interviewed key players on the project.

Reviewed the project status, progress, and issues with the agency review committee; the agencies are satisfied with site progress.

9.2 Problem Areas and Solutions

Problem	Solution
Safety awareness	Daily safety meeting; lottery ticket program; frequent equipment inspections.

9.3 Problems Resolved

Problem	Solution
Excavation during wet weather.	Completed all excavation and other civil work.
Affected soil adjacent to the project.	The City of Baytown will manage the affected soil.

9.4 Deliverables Submitted

July, 1995, Monthly Report.
Project update to agency review committee.

9.5 Upcoming Events and Activities

Daily safety program.

Re-vegetate marsh zone.

Support Baytown response plan for the remaining affected soil.

Develop forecast of maintenance requirements.

Final site clean-up.